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Shadow and Substance in Politics
Richard E. Neustadt • *Adam Yarmolinsky*

Christopher Jencks . . . Is The Public School Obsolete?

James Q. Wilson . . Corruption: The Shame of the States

George A. Miller . . . . Thinking Machines: Myths and Actualities

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The New Society – I

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COMMENT

The troublesome intellectuals

IRVING KRISTOL

The American intellectual has not yet been favored with tax loopholes, nor has he been supplied with his own official depreciation schedule; but in every other respect he is now clearly regarded as a valuable resource of American democracy. Inevitably, however, there is considerable disagreement over the most rational political use to be made of this resource. As of this moment, three distinct schools of thought are visible, if sometimes dimly.

There are those, such as the British commentator, Henry Fairlie, who feel that the usefulness of intellectuals as instruments of national power has been grossly exaggerated. Like Chaucer, he seems to believe that "the greteste clerkes be nought the wisest men," and in a recent issue of *Commentary* he goes on to argue as follows:

"Removed from his own discipline, no one is more vain than the intellectual. Precisely because his mind is able to handle ideas with ease and excitement, it is all too easily turned when he is invited to discourse outside his own field. Inside his own field, the intellectual would never lay claim to omniscience, and seldom to authority. Outside it, his claim to both is breathtaking. A man who, having devoted his life to the study of some exact historical event, would hesitate to suggest the multiple reasons why it occurred, has no hesitation in analyzing the situation in Viet Nam and predicting, say, the Vietcong reaction to a hypothetical situation."

As against Mr. Fairlie, there are those who are fond of repeating Lord Salisbury's dictum: If the public knew how their affairs are managed, they would not sleep in their beds at night. These men are convinced that intellectuals could do better, if given the chance and

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the power; and while they stop short of aspiring to be philosopher-kings, their ambitions are rather to use the political system as against merely participating in it. The more extreme expression of this point of view is provided by the organizers of "teach-ins", who are in effect creating a constituency of their own on the American campus, and whose activities frequently suggest that the perennial itch to establish a third party is now largely an academic – instead of, as previously, an agrarian or trade union – phenomenon.

The third school might be described as traditional-radical and, so far as the intellectual is concerned, neo-isolationist. It agrees with Mr. Fairlie in, for instance, deploring Theodore H. White's passing observation that "closeness to power heightens the dignity of all men." It thinks, too, that our statesmen serve us poorly and are in need of intellectual enlightenment. But it insists that the intellectual's job is to be "a critic of society", and that he must remain an outsider, a nay-sayer, a gadfly, immune to the seductions of power, suspicious of all appeals for "responsibility"; that his powerlessness is a pre-condition of ultimate influence. This "transcendentalist" conception of the intellectual is the most venerable of all, the most firmly rooted in the American past. Its spokesmen, though they are most often to be found on the "new left", are – so far as concerns the relation of intellectuals to American politics – essentially conservative and traditionalist. There does seem to be something in the American air which makes all radicalism, whether of the right or left, an exercise in nostalgia.

Now all of this is no more confusing than it ought to be. When so crucial a question as the relation of American mind to American matter is unresolved, there is bound to be a considerable amount of soul-searching, to which will always be added a dash of self-seeking. The contentiousness and/or "pushiness" so evident among American intellectuals today is the price we are paying for so belatedly incorporating the intellectual into American public life. It is a price we ought to pay gladly, because it represents a singular and enviable opportunity.

In Britain, the intellectual has long had a secure and dignified position in a diffuse "Establishment". It has made for a comfortable and decent life, but it has also made for an extraordinary degree of intellectual and political inertia. Indeed, most of the energies of British intellectuals today (e.g., in the reform of education) are directed toward the dissolution of the old Establishment – and, since old Establishments are notoriously loath to expire, their work is exasperatingly slow and tedious. We in this country are at least spared that onerous assignment.

In France, the intellectuals have long had a secure and dignified position as celebrities, eagerly listened to by everyone *except* the statesmen. This makes for great fun and games: French intellectual life is vivacious as none other, and will always hold a special appeal to those who think that intellectual gossip and intellectual polemic

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are the highest forms of journalism. But the positive contributions of French intellectuals to French politics and to French public life have not been exactly noteworthy, to put it mildly. This is bound to be the case when so many intellectuals know so much about Sartre or Malraux or whomever, and so little about anything else. And, as a matter of fact, many younger French intellectuals are now more interested in the common-rooms of Harvard than in the cafes of Paris.

So the fact that in America this whole question is still open may be regarded as an entirely happy accident. We have greater freedom of action, greater scope for our imagination and inventiveness. We shall, of course, encounter some permanent problems, inherent in the separate existence of realms of theory and realms of practice. (Aristotle, it will be remembered, said that prudence is the greatest of all practical virtues, but not a theoretical virtue at all.) And we shall have to learn to make distinctions between different kinds of theory and different kinds of practice: it is not likely that the relation of the political scientist to the statesman, the economist to the corporate executive, and the philosopher of science to the scientist are perfectly analogous.

Above all, the involvement of intellectuals in American politics – this coming in from the cold, after a century and a half's exclusion – will itself be a most useful educational experience, for all of us. American politics has an ingrained philistinism and anti-intellectualism that has been the cause of infinite mischief. We *need* the best efforts of the best minds to make our cities inhabitable, our schools educational, our economy workable; only on this last point have we made progress. At the same time, our best minds *need* to be chastened by some first-hand experience in the governing of men – or even the simple governing of government, for that matter.

WHATEVER the eventual terms and conditions of their roles, it is quite clear that the intellectuals are in American politics to stay. None of the major programs of the Great Society is workable without their participation. The economists on the Council of Economic Advisors, the scientists and social scientists in the Pentagon, the sociologists and psychologists in the Office of Economic Opportunity, the city planners in the new Department for Urban Affairs – these are very much signs of the times. Indeed, those government departments which have not yet "intellectualized" themselves – such as Commerce and Agriculture – are finding their political power dwindling, their stature in the public eye diminishing, and their very existence being quietly questioned.

Though the "new men" in government are there as professionals and experts, they are not – as is sometimes said – *merely* hired professionals. To begin with, they are not dependent on government for their livelihood, since practically all of them are on loan, as it were, from the academic community, to which they will eventually return. More important, their very standing and reputation in their profes-

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sions is fixed by their colleagues in the academic community, not by their superiors in government. And lastly, it should be said that, for the most part, they are genuinely cultivated men, interested in the arts and in the life of the mind. They are intellectuals as well as academics and professionals.

There remains, however, the question of the so-called literary intellectuals – the writers and the critics who, with no professional competence in any specific area of public life, nevertheless help shape the opinions of the educated classes, and play so crucial a role in defining the moral quality of our society. It is intellectuals of this kind that Charles Frankel had in mind, when he recently wrote in *Foreign Affairs:* "... The stability and strength of social and political institutions depend not only on their practical performance but on their symbolic *legitimacy.* And to a considerable extent, the secular intellectuals of modern nations have supplanted the clergy as the principal suppliers and endorsers of the symbols of legitimacy."

There is surely no more important task than to question or affirm the legitimacy of a society's basic institutions, to criticize or amend the original assumptions on which political life proceeds. How well equipped are our literary intellectuals for this job? Not, it must be confessed, as well equipped as they ought to be.

The problem is one of self-definition. Of too many literary intellectuals it can be said that they see themselves as being, in effect, in competition with their professional counterparts. They feel it incumbent to hold and express decided views on automation, disarmament, urban renewal, economic planning, and all sorts of other matters on which, in the nature of the case, they are inadequately informed. This predilection for omniscience is a heritage of the age of ideology: the whole point of any "ism" is to provide its adherents with a complete spectrum of prejudgments on matters not only of opinion but of fact.

It is a heritage we can do without – and which the literary intellectual would be well advised to discard. It involves him in the wrong kinds of arguments, over the wrong kinds of issues. Meanwhile, the right kinds of arguments, over the right kinds of issues, are neglected. American life and American society today are in need of the most critical examination, from the perspectives of moral and political philosophy. How does our pursuit of affluence relate to our pursuit of happiness? What are the individual's rights and duties in this new, complex, organized society we are creating *ad hoc*? What is the place of conscience as against civic obligation? How do we reconcile – can we reconcile – our commitment to social equality with our commitment to personal liberty?

These are precisely the kinds of questions that the literary intellectuals ought to be *professionally* concerned with. Answering them, however partially and fitfully, is his *métier.* Unless and until he does so, we may discover that America has absorbed its intellectuals without the intellectuals ever having quite absorbed America. That would indeed be a new kind of American tragedy.

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The first service economy

VICTOR R. FUCHS

The United States is now pioneering in a new stage of economic growth. At some point during the past decade, this country became the first "service economy" – that is, it became the first nation in which more than half of the employed population was not involved in the production of food, clothing, houses, automobiles, or other tangible goods.

In 1947, employment stood at approximately 58 million. Now it is about 72 million. Virtually all of this increase occurred in industries that provide services, e.g., banks, hospitals, retail stores, schools. The number employed in the production of goods has been relatively stable: modest increases in manufacturing and construction have been offset by declines in agriculture and mining.

Numerous dramatic examples of the growth of services are readily available:

Item: The *increase* in employment in the field of education between 1950 and 1960 was greater than the total number employed in the steel, copper, and aluminum industries in either year.

Item: The *increase* in employment in the field of health between 1950 and 1960 was greater than the total number employed in automobile manufacturing in either year.

Item: The *increase* in employment in financial firms between 1950 and 1960 was greater than total employment in mining in 1960.

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Although the shift to services has been particularly rapid in the postwar period, similar trends have been evident for at least the past century in this country, and can also be observed in most growing economies. Colin Clark, in 1940, characterized the movement of labor from agriculture to manufacture, and from manufacture to commerce and services, as "the most important concomitant of economic progress."

When we seek an explanation for this drastic shift of employment, two principal answers are suggested. The first concerns the relation between spending patterns and levels of income. As income rises, it is argued, the demand for goods tends to rise less rapidly than the demand for services; hence, the share of services in total output will rise. With respect to some goods, notably food, the facts clearly support the theory. As Adam Smith noted in *The Wealth of Nations:* "The desire of food is limited in every man by the narrow capacity of the human stomach." Whether this is true for goods in general, is less clear. While the demand for any particular good, such as automobiles or radios, may reach a point where further increases in income do not trigger much additional buying, new goods – such as pleasure boats or TV sets – frequently appear to take up the slack.

The other principal explanation is that output per man grows more rapidly in goods production than in services. Therefore, even when the relative shares of output remain the same as between the two sectors, relatively fewer workers will be needed in the goods sector and the remainder *must* find employment in services. The available evidence strongly suggests that output per man has indeed risen a great deal more rapidly in goods industries than in services. We cannot be certain of this, however, or even about what has happened to relative shares of real output, because in many of the services it is extremely difficult to measure changes in output. The output of wheat farmers can be measured easily in bushels of wheat, but how can we measure changes in the output of doctors, teachers, or social workers? As the activities of these people absorb an increasing share of our total resources, it will become more difficult to make precise statements about trends in real output or productivity, and our statistics of real Gross National Product will become increasingly less satisfactory for measuring economic welfare. I shall return to this point later.

Perhaps of greater interest than the causes of the shift to a service economy are some of the implications of the fact that the shift has taken place. To be sure, unquestionably a shift in the relative importance of different industries is only one of many changes that are occurring simultaneously in the economy, and these other changes may tend to be offsetting in nature. Also, the sum total of these shifts and changes may itself set in motion further developments whose

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implications are at present indicipherable. Nevertheless, given the rapid growth of the service industries, it is useful to examine several major differences between them and the rest of the economy, and to speculate about some possible consequences of a "service economy."

The Berle-Galbraith myth

Consider, for example, the implications arising from the fact that the size of the "firm" and the nature of ownership and control are typically different in the goods-producing and service sectors.

In the production of goods, with some notable exceptions such as agriculture and construction, most of the output is accounted for by large profit-seeking corporations. Ownership is frequently separate from management, and significant market power is often held by a few firms in each industry.

In the service sector, on the other hand, and again with some exceptions, firms are typically small, are usually owner-managed, and are often noncorporate. Furthermore, *nonprofit operations, both public and private, account for one-third of the service sector's employment.*

Table 1 summarizes some of the available information concerning the distribution of employment by size of employer, in different service industries. The size distribution in manufacturing is included for comparison. It will be seen that in wholesale trade, retail trade, and selected services, accounting for more than 50 percent of the service sector, half of the employment is in companies with fewer than 20 workers. In finance, insurance, and real estate, 40 percent is found in very small firms. And another large fraction of service sector employment is accounted for by self-employed professionals and domestic servants, not shown in the table.

Private (i.e. nongovernment) hospitals are considerably larger than the typical service firm, but even they have more than half their total employment in hospitals with fewer than 500 employees. Similarly, only a few private schools or colleges could be classified as large.

Government, which is often referred to as a "huge bureaucracy", actually includes many small employers. It is worth noting that employment at the local level of government now exceeds that of state and federal (civilian) government combined. One-half of this local employment is truly "local" – i.e., it is in governmental units with fewer than 500 employees.

One statistic that epitomizes what has been happening to the American economy is the percentage of the national income originating in business corporations. Ever since the development of the private corporation, its role in the economy has tended to grow – but its relative importance apparently reached a peak about 1955, when

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corporations accounted for 55.8 percent of total national income. Since then, there has been a tendency for this fraction to decline, and in 1963 the level was 53.8 percent, approximately the same as it was in 1948.

As these facts and trends become better known, we may see an end to the Berle-Galbraith myth of the dominance of the large corporation in our society. In actual fact, large corporations are not and have never been the dominant form of American enterprise. Most people do not work, and never have worked, for large corporations; most production does not take place and never has taken place in large corporations. This assumption was primarily based on extrapolation of trends from the 19th century, but the trend is now reversed and this assumption is no longer tenable. In the future, the large corporation is likely to be overshadowed by the hospitals, universities, research institutes, government agencies, and professional organizations that are the hallmarks of a service economy. One ironic aspect of Galbraith's thesis is that he personally is employed by an organization (Harvard University) that is tiny compared with General Motors or

TABLE 1

Distribution of Employment by Size of Firm or Employer in Manufacturing and Selected Service Industries

	Employment Size	
	Fewer Than 20	Fewer Than 500
1 Manufacturing (1958)	7%	38%
2 Wholesale trade (1958)	47	93
3 Retail trade (1958)	56	78
4 Selected services (1958)	57	87
5 Finance, insurance, and real estate (1956)	41	67
6 Hospitals (nongovernmental) (1963)	n.a.	52
7 Local government (1962)	n.a.	49

Sources: 1-4. Bureau of the Census, *Enterprise Statistics:* 1958 *Part I, General Report,* p. 30, adjusted to include self-employed proprietors by assuming that they are in firms with fewer than 20 employees.

5. Betty C. Churchill, "Size of Business Firms," *Survey of Current Business,* Sept. 1959, p. 19, adjusted for self-employed proprietors as rows 1-4.

6. American Hospital Association, *Hospitals,* Guide Issue 1964, estimated from distributions by number of beds.

7. *Census of Government, Compendium of Government Employment* 1962, estimated in part.

n.a. = not available.

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U.S. Steel, but he and his colleagues have more power and influence in the United States than any 10 large corporations.

Industries such as trade and services, in which small firms account for the bulk of the output, do not present industrial control problems of the classic "trust-busting" variety. On the other hand, the growth of such industries may increase the need to guard against the restrictive practices of trade associations and professional organizations. Small firms may pose another problem for the economy because it is alleged that they do not allocate sufficient resources to research, and other activities with large external benefits.

Unlike goods, many services are typically provided by nonprofit institutions. The growing importance of such organizations will probably pose some disturbing questions about how to promote efficiency and equity (cf. the problems with Blue Cross). If we ever reach the stage where nonprofit operations tend to dominate the economy, we will be faced with the need for radically new instruments of regulation and control to supplement the present system based on competition and the drive for profits.

Service employment

Some of the most startling comparisons that can be made between the goods and service sectors concern the characteristics of their respective labor forces. (See Table 2.) One simple but profound

TABLE 2

Labor Force Characteristics, Goods and Service Sectors, 1960

	Characteristic	As Percentage of Sector Employment: Goods	Service
1	All employed[a]	100	100
2	Females	19	46
3	Over 65	4	5
4	Part-timers	19	27
5	Self-employed	13	13
6	Union members	48	7
7	More than 12 years of school	13	30
8	Fewer than 9 years of school	38	22

Source: Rows 1-5 *U. S. Census of Population,* 1960
Row 6 H. G. Lewis *Unionism and Relative Wages in the United States,* Chicago, 1963, p. 251.
Rows 7, 8 *U. S. Census of Population,* 1960, 1/1000 sample.

[a]Data in this table for civilian employment only; unpaid family workers are included.

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difference is that many occupations in the service sector do not make special demands for physical strength. This means that women can compete on more nearly equal terms with men, perhaps for the first time in history. In services we find women holding down almost one-half of all jobs, compared with only one-fifth in the goods sector.

The ultimate effects of this simple change could be very far-reaching. Man's superior economic position has been based in part on his superior physical strength, which gave him an advantage over woman in many occupations. To be sure, the higher male earnings are also the result of his firmer and more continuous attachment to the labor force and to other factors. But to the extent that they are based on physical strength, the advent of a service economy should make for greater equality between the sexes.

Because physical strength is less important, we also find proportionately more older workers in services. This is in spite of the fact that the more rapidly growing sector would normally tend to have a younger work force. An additional reason women and older workers are attracted to the service sector is that it provides greater opportunities for part-time employment. Trade and services, in particular, have employed many part-timers and the number has grown appreciably in the postwar period. The use of part-timers contributes significantly to the efficient operation of service firms because demand in many cases is uneven, with peaks coming at particular hours of the day, particular days of the week, and particular weeks and months of the year. Fortunately, there are increasing numbers of married women, older men, and students who desire less than full-time employment; therefore it is possible for service firms to meet peak demands without having a great deal of idle labor at other times.

The situation with respect to self-employment is complex. According to the 1960 *Census of Population,* the two sectors have approximately equal numbers of self-employed. But agriculture accounts for the lion's share (63 percent) of self-employment in the goods sector, while self-employment opportunities in services are widespread (with the exception of government and nonprofit institutions). The *Census of Population* undoubtedly understates the number of self-employed in services relative to goods, because corporate employees are frequently classified as "wage and salary workers," regardless of the size of the corporation. In fact, the officers of small, owner-managed corporations are more truly comparable to partners in a firm, or to individual proprietors. About three-quarters of such small owner-managed corporations are in the service industries.

It is widely believed that opportunities for self-employment are diminishing in the United States; but if one excludes the decline of agriculture, this is no longer true. In recent years, due largely to the

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growth of services, the self-employed have grown in absolute numbers and have remained a constant fraction of total nonagricultural employment.

The role of self-employment in the future will be determined by several conflicting trends. A continued shift to services will certainly favor self-employment, but this may be offset by the influx of young workers and women into the labor force, since these groups are predominantly wage and salary workers. There may also be some tendency towards larger firms within each individual service industry. But on the whole, there is little reason to think that opportunities for self-employment will narrow so long as the service sector continues to grow.

Given the importance of females, part-time employment, and self-employment in the service sector, it is not surprising to find a vast difference in the importance of unions in the two sectors. The service industries thus far have not responded very enthusiastically to organizing efforts, and the continued growth of services may mean a decline in union influence in the United States. On the other hand, if unions become successful in organizing the service sector to the same extent as the goods sector, we may see a significant change in the nature of the union movement itself.

The last two rows of Table 2 reveal interesting sector differences in education. The service industries make much greater use of workers with higher education, and make relatively less use of those with only limited schooling. This is not true for all service industries, of course, but is true for the sector on average.

Personalization of work

There is another implication concerning labor which is not readily apparent in the statistics but which is potentially of considerable importance. For many decades, we have been hearing that industrialization has "alienated" the worker from his work, that the individual has no contact with the final fruit of his labor, and that the transfer from a craft society to one of mass production has resulted in depersonalization and in the loss of ancient skills and virtues.

Whatever validity such statements may have had in the past, a question arises whether they now accord with reality. For the advent of a service economy implies a reversal of these trends. Employees in many service industries are closely related to their work and often render a highly personalized service, of a kind that offers ample scope for the development and exercise of personal skills.

This is true of some goods-producing occupations as well, but there is little doubt that personal contact between consumer and worker occurs more frequently in services. Of course, even within many service industries there is some tendency for work to become

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less personalized (e.g. teaching machines in education, self-service counters in retailing, and laboratory tests in medicine); but with more and more people becoming engaged in service occupations, the net effect for the labor force as a whole may be in the direction of the *personalization of work.*

It should be stressed that the possibility of deriving satisfaction from a job well done, and of taking pride in one's work, are only prospects – not certainties. Teachers can ignore their pupils; doctors can think more of their bank balances than of their patients. The salesman who must go through life with an artificial smile on his face while caring little for his customers and less for what he sells, will not disappear. But at their best, many service occupations are extremely rewarding and in many of them the line between "work" and "leisure" activity is often difficult to draw.

The preceding remarks suggest the need to reexamine current stereotyped thinking to the effect that automation results in the depersonalization of work. One reason people have come to this erroneous conclusion is that they have been looking in the wrong place. They have been looking at the impact of automation where it occurs and noting that machinery and controls (highly impersonal) take over work that was formerly done by human labor. But the real impact of automation is to take people who were doing relatively routine, impersonal work and to remove them from the scene entirely, with the result that if one looks at the kind of work they are now doing – the type of work that is growing most rapidly, partly as a result of automation elsewhere – it is typically of a much more personal character than before.

It is true, of course, that some service occupations – e.g., domestic service – are not well regarded in this country. A study of why so many Americans consider such work to be degrading would be very useful. It may be a cultural lag, rooted in the level of income and the distribution of income that prevailed in this country and abroad in the 18th and 19th centuries. When the average level of per capita income in a country is low, the amount of personal services rendered is probably a function of the (highly unequal) distribution of income; it is probably also related to social immobility and inequality of opportunity. Typically, in such circumstances, these services are rendered by the low-born and the poor to the privileged classes and the wealthy. It can be argued, however, that there is nothing inherently degrading in personal services. In a country with a high average level of income, one would expect that a large amount of personal service will be consumed and that a large number of people will find profitable employment in that way. (This would be true even if the income distribution were completely egalitarian.) For high per capita income implies high average output per man.

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This is likely to mean *very* high output per man in some industries (where capital can be substituted for labor, and technological change is rapid). Employment will probably increase in industries, such as personal services, where output per man advances slowly. Our attitudes toward personal services are not immutable laws of nature; they can be changed. Such a change would, I suspect, reduce unemployment and increase consumer satisfaction.

Mention of unemployment recalls the not unimportant fact that there is much less of it in the service industries than in goods. One reason is that the demand for services is more stable over the business cycle. Because services cannot be stored, this sector avoids the swings in output that result from changes in the rate at which business firms and consumers add to or diminish their inventories of goods.

Even for equal cyclical changes in output, moreover, there is evidence that service employment is more stable. In retail trade, for example, the cyclical swings of output are much greater than those of manhours, whereas in manufacturing the two tend to move together.

Reasons for the discrepancy between output and manhours in trade (and other services) can be found in the nature of the labor force. First, there are large numbers of self-employed; their employment is almost completely insensitive to cyclical fluctuations in output. Second, the role of salaried employees, as opposed to hourly workers, is much larger in services than it is in goods. Also, the educational level is higher and the costs of hiring are probably greater. All of this means that dismissals or layoffs during temporary recessions will be less frequent. Finally, it should be noted that there is a substantial number of service industry employees classified as "wage and salary workers" who are actually compensated on a "piecework" basis. Their wages in whole or in part are determined by their output, and take the form of commissions, tips, or a share of "profits." Employers have little reason to fire such employees when business falls off. This group includes real estate brokers, insurance and security brokers, waiters and waitresses, barbers and beauticians, and most salesmen of durable goods. Because their earnings are more sensitive to cyclical fluctuations in spending than are their hours of work, we can think of these workers as having "flexible" wages.

Growth in a service economy

Earlier, I referred to the difficulty of measuring changes in output and productivity in the service industries. This difficulty arises partly because the services have not received much attention from economists or statisticians in the past. Even at present, the statistical resources of the government are concentrated on agriculture, mining, and manufacturing to an excessive degree.

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Reallocation of research resources would help, but there are fundamental conceptual problems as well. Consider, for example, the fact that in services the consumer frequently plays an important role in the production process. Sometimes, as in the barber's chair, the role is essentially passive. In such cases the only conceptual adjustment called for is to recognize that the time of the consumer is also a scarce resource. But in the supermarket and laundromat the consumer actually works, and in the doctor's office the quality of the medical history the patient gives may influence significantly the productivity of the doctor. Productivity in banking is affected by whether the clerk or the customer makes out the deposit slip – and whether it is made out correctly or not. This, in turn, is likely to be a function of the education of the customer, among other factors. Productivity in education, as every teacher knows, is determined largely by what the student contributes and, to take an extreme case, the performance of a string quartet can be affected by the audience's response. Thus, we see that productivity in many service industries is dependent in part on the knowledge, experience, and motivation of the consumer. Think what would happen to service industry productivity in the United States if technology, capital, and labor inputs remained as they are but the consumers were exchanged for 190 million consumers chosen at random from India!

In a similar vein, productivity can be and often is affected by the level of honesty of the consumer. If consumers can be trusted to refrain from stealing merchandise, to report prices and costs properly at check-out counters, to honor verbal commitments for purchases and other contracts, etc., there can be tremendous savings in personnel on the part of producers of services. These savings are probably important when comparisons are made with productivity in other countries or with the same country at different points in time. It may be that qualities such as honesty are themselves functions of the general level of productivity and income. A full analysis, therefore, requires consideration of these interrelations – but the tools and data necessary for such analysis do not exist at present.

A similar problem is posed by "do-it-yourself" and other types of "home" or "nonmarket" production. It seems clear that paid labor is becoming a decreasing fraction of all time spent in productive activity. A small increase in labor force participation rates has been more than offset by decreases in average hours per week and increases in vacations and holidays. Some of the increased free time may be spent in pure leisure, but probably the bulk of it is spent in the nonmarket production of goods and services as well as in consumer participation in the market production of services. As I have already suggested, how well or poorly these activities are carried out will surely influence economic well-being.

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Economists have long been aware that the significance of real Gross National Product as a measure of output and of economic well-being will vary, depending upon the level of economic development. There has been a presumption that the more highly developed the economy the more useful the measure becomes. Simon Kuznets, one of the founding fathers of national income accounting, wrote: "The importance of domestic activities relative to those that are part of the business system declines in the long run." When this was written, a quarter of a century ago, it was probably true that the higher the real GNP, the more reliable it was as a measure of economic welfare. But the trend may now be in the other direction, because at very high levels of GNP per capita, a large fraction of productive effort is devoted to services (where real output is very difficult to measure) and to other activities (that are not measured at all).

An increase in home production, at the expense of labor in the market, reduces measured output because the former is mostly not included in the Gross National Product. If the outputs and inputs of home production were included, growth of this type of activity would probably tend to reduce measured productivity, because of the absence of specialization and of economies of scale. On the other hand, true economic welfare might be increased by such a shift if, as seems likely, labor in the market is less pleasureable than labor in home production.

One example of the difficulty of measuring productivity and economic welfare at high levels of GNP per capita, can be found in mortality statistics. At low or moderate levels of economic development, there is usually a negative correlation between real GNP per capita and death rates. However, now we have a situation where the United States' GNP per capita is 50 percent above the Swedish level, but life expectancy is considerably lower in the U. S. – and the death rate for males 50-54 is double the Swedish rate! The reasons for this huge difference are not known, but are probably related to the pace of work, diet, and exercise, as well as what might be called the output of the health industry.

I conclude that, even as we increase our efforts to measure real output in the service sector, we must recognize that these efforts are likely to leave considerable margins of uncertainty. The study of growth and productivity in a service economy will surely require the development of auxiliary measures of "output" and economic welfare to be used in conjunction with the familiar Gross National Product.

(The second article in this series – Charles Reich's THE NEW PROPERTY – will appear in the next issue of The Public Interest.)

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Is the public school obsolete?

CHRISTOPHER JENCKS

The problems of education in the slums can be grouped under two broad headings: inadequate public support and excessive bureaucratic timidity and defeatism. Both have been catalogued *ad nauseam* elsewhere, but a brief review is needed to put the remedies I want to discuss in context.

I — The money problem

As a rule of thumb, America spends about half as much educating the children of the poor as the children of the rich. The difference derives from two factors. First, the annual expenditure per pupil in a prosperous suburb is usually at least fifty percent more than in a slum in the same metropolitan area. Second, this additional expenditure, in combination with better family and neighborhood conditions, encourages suburban children to stay in school half again as long as slum children (from kindergarten through college, instead of from first through tenth or eleventh grade). The cumulative result, in round figures, is that the taxpayers typically spend less than $5,000 for the formal education of most slum children compared to more than $10,000 for many suburban children. (All these figures are very rough, varying from individual to individual and from place to place. Thus while we spend twice as much on children born in Scarsdale as on those born in Harlem, we spend perhaps ten times more on the

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children of Scarsdale than on the children of Tunica County, Mississippi. Conversely, we spend about the same on children born in Harlem as on those born in Montgomery County, Maryland. But allowing for regional and urban-rural variations, the basic rule of thumb is accurate.)

If America were to try to provide all her children with equal opportunity to develop their talents, obtain ample adult incomes, and share in controlling their own and their community's future, this pattern of expenditure would probably have to be reversed. If we wanted to offset the miseducation which takes place in a slum home and neighborhood, we would probably have to spend *twice* as much on formal education in the slums as we do in the suburbs. Instead of starting slum children in school later than suburban children, as we now do, we would have to start them earlier. Instead of keeping slum schools open fewer hours per day than suburban schools, and providing fewer slum children with opportunities to study all year round, we would have to reverse the balance. Instead of creating schools which encourage slum children to drop out as soon as possible, we would have to find ways to keep the slum child learning even longer than suburbanites. Instead of having larger classes, worse books and shoddier buildings in the slums than in the suburbs, we would have to reverse the pattern – aiming, for example, at an average class size in the slums of 15-20 children instead of 35. Instead of spending less – often much less – than $500 per child per year for education in the slums, we would have to spend more like $1500 per year. Hopefully, the result would be that slum children stayed in school longer than suburbanites, qualifying themselves for professional jobs in which skill can offset the wrong background. Instead of a cumulative total of less than $5000 per child, we would have to aim at a total of perhaps $25,000.

In strictly fiscal terms this would not be much of a strain on the national economy. There are something like ten million children now growing up in what the Johnson Administration has defined as poverty. Raising expenditures on such children's education to $1500 per year would cost the nation something like $11 billion annually; providing them with pre-schools, kindergartens, and colleges might add another $8 billion to the bill. In the long run there is abundant evidence that this investment would repay itself by raising taxable income and by cutting expenditures for welfare, unemployment, police and other slum symptoms. Even in the short run $11 billion for better education would place comparatively little burden on a well-managed economy. Assuming the President continues to listen to liberal rather than conservative economists, the GNP should increase by at least $150 billion between now and 1970, and federal tax receipts should go up at least $30 billion if the present tax structure is

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maintained. Unless the Vietnam war spreads, Congress could increase the authorization under Title 1 of the new Elementary and Secondary Education Act, to $20 billion by 1970 without straining the federal budget.

But of course this is not going to happen. Almost nobody really wants to make America an egalitarian society. Ours is a competitive society, in which some people do extremely well and others do equally badly, and most people are willing to keep it that way. For as long as anyone can remember, for example, the richest fifth of the population has earned about ten times as much as the poorest fifth. The ability to influence political and personal events is probably even less equally distributed. As a result, there is enormous competition for the jobs which provide comfort and personal power. And despite a lot of pious rhetoric about equality of opportunity in this competition, most parents want their children to have a more than equal chance of success. Since access to good schools and colleges has become increasingly critical in this struggle, there is constant competition to guarantee one's children access to the "best" schools. This means that if the schools down the road get better, local ideals will rise too. If other schools raise their salaries and begin to lure the best teachers, local schools will respond by doing likewise – if they can. If Washington begins to pour large sums of money into the slums to equalize opportunity, middle class areas will respond by pouring even more money into *their* schools, in order to keep ahead. Or, to be more realistic, they will begin demanding that Washington help middle-class as well as slum schools. If they don't get the money from Washington they will turn to their state legislatures, where they are likely to get a sympathetic hearing.

The fact is that American society, while providing almost unlimited opportunities for particularly gifted individuals, does not provide unlimited opportunity for its people as a whole. On the contrary, American society has always been organized on the assumption that while some will do very well, many will do very badly. Equality of opportunity therefore means not just an equal opportunity for everyone to become President, but an equal opportunity for everyone to end up a street cleaner. No sane family or community wants that kind of equality for *their* children. They struggle to keep *that* kind of opportunity as *unequal* as possible. Inevitably, those who have money and influence struggle more successfully than those who do not. Children who grow up in the slums can see this. They know that America contains failures as well as successes, jobs which pay desperately low wages as well as jobs which pay extremely good ones, styles of life which are miserable as well as styles which are comfortable. Unless they have both unusual faith and unusual talent, they know that their future is, at best, one of comparative failure. It is this comparison, far

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more than absolute deprivation, which underlies the sickness of today's slums. It is this comparison with the rest of America which makes jobs and living standards that seemed more than adequate a generation ago seem intolerable today. (It is no accident that the "poverty line" shifts from one generation to another. As a rule of thumb, we can predict that any family which makes less than half the national average will *feel* poor, and will be defined as poor by liberal economists.)

This comparative standard must also be kept in mind when evaluating programs for upgrading slum schools. A man's employment prospects are not improved by teaching him ten percent more if, at the same time, all his neighbors are being taught twenty percent more. Increasing a school's budget by fifty percent will not equalize the opportunities open to its students if, at the same time, competing schools also get 50 or even 100 percent more money.

II — The bureaucracy problem

It would be politically difficult to equalize opportunity between the slums and the suburbs under the best of circumstances. But not even the better financed slum schools (e.g. those in Harlem, on which more money is spent than in most suburbs outside the New York area) achieve results comparable to suburban systems. This in turn makes it even more difficult to raise the necessary money than it would otherwise be. If an extra $20 billion a year would bring slum children up to the academic level of their suburban rivals, some legislators would support the expenditure out of idealism. But many legislators feel – and not without reason – that even if they gave the schools an unlimited budget, the children of the slums would continue to grow up both personally and academically crippled.

These fears may be exaggerated. They certainly ought to be tested empirically before being accepted at face value. The Ford Foundation, for example, instead of sprinkling money around in dozens of different projects and places, ought to try raising school expenditures in one slum area to, say, double the level in nearby suburbs – just to see what would happen. It would, of course, take many years to tell. Children who were more than two or three when the experiment began would already have been scarred, often hopelessly, by the existing system. It would be a generation before the impact of the extra money on today's infants could be fully weighed. But if it turned out that an extra $100 million a year made a dramatic difference in, say, the slums of Washington, D. C., it would become very much easier to get comparable sums from taxpayers in other areas.

Unfortunately, an extra $100 million might not make a dramatic difference in Washington – or in most other places either. Much that has been said and written about slum schools, not only in Washington but in places where race is not an issue, suggests that inadequate

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funds are only part of their problem. They also have the wrong motives and objectives. Some slum schools seem to be less educational than penal institutions. Their function is more to pacify the young than to teach them. They are ruled by fear, not love, infected by boredom, not curiosity. Such schools should not be given more money; they should be closed.

The roots of the problem go very deep. At times the problem seems to be public control itself. Because the slum school is public, it is accountable to the taxpayer. As in every other public enterprise, this kind of minute accountability to publicity-hungry elected officials leads to timidity among the employees. Public control puts a premium not on achieving a few spectacular successes but on avoiding any spectacular failures. In this respect there is not much difference between education and other fields of public endeavor. Nevertheless, public control over education has achieved a sanctity and respectability which public control over other enterprises has never mustered. Conversely, the ideologists of private enterprise have, with the conspicuous exception of Milton Friedman, been comparatively slow to apply their arguments in behalf of private schools.

Yet public control is not a sufficient explanation of the problems of the slum school, for public control seems to have worked quite well in some suburbs and small towns. The problem seems to be that in the slums public control has been linked to inadequate funds for performing the job assigned. Slum schools have found it difficult to get extra money even when there was reason to believe that the marginal return on this money would be very good. Educators might argue, for example, that doubling expenditures in the slums would treble results. But since we have no good way to measure this, sceptical legislators have been slow to provide extra money. As a result, pay scales in big city school systems have been too low to compete with most other jobs requiring equivalent training, skill, and masochism. And so, in turn, many slum teachers and administrators have comparatively little competence, confidence or commitment.

In city after city this has led to the creation of a system of education whose first axiom is that *everyone*, on every level, is incompetent and irresponsible. From this axiom comes the corollary that everyone must be carefully watched by a superior. The school board has no faith in the central administration, the central administration has no faith in the principals, the principals have no faith in the teachers, and the teachers have no faith in the students. Decision-making is constantly centralized into as few hands as possible rather than being decentralized into as many hands as possible, in the hope of reducing errors to a minimum. Of course such a system also reduces individual initiative to a minimum, but that is a price which a publicly-controlled bureaucracy, whose aim is not profits but sur-

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vival, usually seems willing to pay. In such a system it seems natural not to give the principal of a school control over his budget, not to give teachers control over their syllabus, and not to give the students control over anything. Distrust is the order of the day, symbolized by the elaborate accounting system, the endless forms to be filled out for the central office, the time clocks and the two-way radios for monitoring classrooms from the front office, the constant tests and elaborate regulations for students.

In such a system everyone gets along by going along with the man over him. Most come to see themselves as play actors. The student tries to dope out what the teacher wants, and gives it to him. Usually all he wants is a reasonable amount of quiet in class and some appearance of docility in doing assignments. The teachers, in turn, try to figure out what the principal wants. That usually means filing grades and attendance records promptly, keeping trouble over discipline to a minimum, and avoiding complaints from parents or students. The principal, in turn, tries to keep the central administration happy (and the administration tries to keep the school board happy) by not sticking his neck out and by damping down "trouble" before it gets "out of hand."

Organizational sclerosis of this kind is extremely difficult to cure. For obvious reasons innovation from the botton up becomes impossible and unthinkable. But even innovation from the top down is difficult. It is easy to get people to go through the *forms* of change, but it is almost impossible to get them to *really* change, because they are frozen into defensive postures based on years of stand-pattism. If the principal tells the teachers he wants them to revamp the curriculum, they immediately begin looking to him – not to their students in the classroom – for cues and clues about what kinds of changes to propose. If the teachers tell the students to think for themselves, the students interpret this as just another move by the teacher to complicate "the game," another frustration in their efforts to "give the teacher what he wants." If the school board tries raising salaries in order to attract new kinds of teachers, it must still assign them to the same old schools, where they are still treated like filing clerks. So the more imaginative and dedicated teachers leave after a year or two for other schools – often in suburbia – which treat them better. In such circumstances more money may just mean more of the same.

A business which becomes afflicted with this kind of disease either goes bankrupt or else creates a monopoly or cartel to protect itself from more dynamic competition. The same is true of school systems. Were it not for their monopoly on educational opportunities for the poor, most big city school systems would probably go out of business. If, for example, the poor were simply given the money that is now spent on their children's education in public schools, and were

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told they could spend this money in private institutions, private schools would begin to spring up to serve slum children. In due course such schools would probably enroll the great majority of these children. The case of the parochial schools illustrates this point. These schools are seldom really free, but many parents, including some non-Catholics, make considerable sacrifices to send their children to them. In some cases, of course, this is a matter of religious faith. But if one asks parents why they prefer the parochial schools, the answer is often that they think the schooling itself is better than what the public schools in their area offer. Evidence collected by Peter Rossi and Andrew Greeley of the National Opinion Research Center suggests that the parochial schools usually *do* do more for their students than their public competitors, at least judging by the records of their alumni. This seems to be so despite the fact that they have less money, pay lower salaries to lay teachers, have larger classes, older buildings, and fewer amenities of every sort.

There is, of course, considerable reluctance among non-Catholics (and also among anti-clerical Catholics) to admit that the parochial schools might be doing something of value. Most non-Catholics, including myself, have an instinctive distrust of the Church. We have readily accepted the proposition that its schools were "divisive," despite research evidence which shows that aside from their religious practices parochial school graduates have about the same habits and values as Catholics who attend public schools. A similar prejudice clouds efforts to discuss what have traditionally been called "private" schools. Educators have taught us to use "public" as a synonym for "democratic" or just plain "good", and to associate "private" with "elitist" and "inequality." In part this is because when we think of a "public" school we conjure up a small-town or suburban school which is responsible and responsive to those whom it serves; a "private" school, on the other hand, is imagined as a posh country club for the sons of the rich. Yet using this kind of language to describe the "public" schools of Harlem surely obscures as much as it reveals. The Harlem schools are hardly more responsible or responsive to those whom they nominally serve than the typical "private" school. They are "public" only in the legal sense that the Post Office, for example, is "public", i.e., they are tax supported, open to all, ultimately answerable to public officials who have almost no interest in them. Conversely, while it is true that "private" schools have in the past catered mainly to the well-off, this seems to reflect economic necessity more than social prejudice. If the poor were given as much money to spend on education as the rich, there is every reason to assume that the private sector would expand to accommodate them. Indeed, if we were to judge schools by their willingness to subsidize the poor, we would have to say that private schools have shown *more* interest in

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the poor than public ones. Has any suburban board of education used its own money to provide scholarships for slum children? Most refuse to admit such children even if their way is paid. Many private boards of trustees, on the other hand, have made such efforts, albeit on a small scale.

Private control has several advantages in a school which serves slum children. To begin with, it makes it possible to attack the problem in manageable bites. It is inconceivable that a big city school system can be reformed all at once. Failing that, however, it may be impossible to reform it at all. If, for example, the system is geared to docile teachers who do not want and cannot handle responsibility, how is it to accommodate the enterprising minority who have ideas of their own and want freedom to try them out? The superintendent cannot alter the whole system to deal with a handful of such teachers, even if he wants to. But if he does not alter the system, the better teachers will usually leave – or not come in the first place. Somehow the system must be broken up so that its parts can develop at different paces, in different styles, and even in different directions. Little cells of excellence must be nourished, gradually adding to their own number and excitement. Unusual talent must not be spread so thin over the whole system that no single place achieves the critical mass needed to sustain a chain reaction. Yet this is just what a conventional, centrally controlled system tends to do, for in such a system "special treatment" for a particular school is quickly defined as "favoritism." (This attitude is illustrated in the response of big cities to the offer of federal funds under the new Elementary and Secondary Education Act. Almost nobody wants to concentrate this money in a few places to create really good schools; everyone wants to spread it across the whole system.)

A second virtue of private schools is that they get away from the increasingly irrelevant tradition of neighborhood schools. Every psychologist and sociologist now recognizes that what children learn formally from their teachers is only a small fraction of their overall education. What they learn informally from their classmates is equally or more important. For this reason it is extremely important to expose slum children to classmates who teach them things which will be an asset rather than a liability as they grow older. A school which draws only from the slum itself will not provide this kind of stimulus. Instead, ways must be found to mix slum children with racially and economically different classmates.

In principle, of course, this kind of ethnic and economic mixing ought to be easier within a public system than a private one. But this may not be so in practice. In a publicly controlled system every school is required to follow essentially the same educational policies and practices as every other one. This means that the differences between

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schools derive largely if not exclusively from the differences in their student bodies. (Ability to hold good administrators and teachers seems to depend largely on this, for example.) So long as the student "mix" is decisive, middle-class parents are understandably reluctant to send their children to school with substantial numbers of lower-class children. White parents feel the same way about schools with large numbers of Negro children. But if the traditions and distinctive identity of a school depend not on the character of the student body but on the special objectives and methods of the staff, middle-class parents who approve of these objectives and methods will often send their children despite the presence of poorer classmates. This is clearest, perhaps, in the parochial schools. It might also be possible in non-sectarian private schools, if these had the money to give poor children scholarships, or if outside groups provided such scholarships to large numbers of children.

Getting rid of the neighborhood school, whether by creating city-wide public schools or private ones, could also have the virtue of providing the poor with a real choice about the kinds of schools their children attend. At present, the neighborhood school must try to be all things to all people in its area. Anything daring is bound to displease somebody, and so must be avoided. But if schools could simply tell those who disliked their methods to look elsewhere, and could look all over a large city for a clientele which wanted a particular brand of education, there would be a better chance both for innovation in the schools and for satisfying the diverse needs of different students. It should be possible, for example, for poor people to send their children to a school which segregates the sexes, or employs the Montessorri method, or teaches reading phonetically, or emulates the Summerhill approach. Not everyone wants such things, but *some* do, and they should be able to get them. Given the present outlook of the men who control big city public schools, the only way to make these choices available is probably in the private sector.

In principle there are two ways to develop a larger measure of private initiative and room for maneuver in educating the poor. One would be to provide tuition grants to children who opted out of the public-controlled schools, equal to what would be spent on them if they stayed in. These tuition grants could be used to pay the bills in private schools. There are not, of course, enough private schools today to handle all the potential applicants from the slums, but more would spring up if money were available. But even without tuition grants it should be possible to create much more diversity and decentralization in the schools. School boards could, for example, contract with various groups to manage particular schools in their own system.

A university might be given contract to run a model school system in the slums, as suggested by the Panel on Educational Research and

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Development of the President's Science Advisory Committee. This is apparently to be tried in New York.

A local business group might also take over the management of a school. (If Litton Industries can run a Job Corps camp, it can surely run a school.)

A group of teachers might incorporate itself to manage a school on contract from the citywide board. This could be done at no expense within the present system, using present personnel and facilities, and it might have appreciable advantages. Suppose, for example, that the New York City Board of Education were to rent its facilities to their present staffs and provide them with a management contract subject to annual review. Ultimate control over the school could be vested in the teachers, who would hire administrators. Hiring and firing teachers, budget-making, programming and so forth would all be decided on the spot. If the school did a poor job – which some surely would – the contract could be terminated. A group of parents, working through an elected board, might also take over a school. This alternative, which should be especially appealing to the New Left and to the prophets of "community action," is perhaps better described as a new kind of public control than as private control. In effect, it would mean replacing responsibility to the taxpayer-stockholder with responsibility to the consumer – a kind of educational cooperative.

All these alternatives aim at a radical decentralization of both power and responsibility. All would liberate the schools from the dead hand of central administration, from minute accountability to the public for every penny, every minute, and every word. They all recognize that so far as the slum child is concerned, the present system of "socialized education" has failed, and that some kind of new departure, either "capitalist" or "syndicalist," is needed.

Either tuition grants or management contracts to private organizations would, of course, "destroy the public school system as we know it." When one thinks of the remarkable past achievements of public education in America, this may seem a foolish step. But we must not allow the memory of past achievements to blind us to present failures. Nor should we allow the rhetoric of public school men to obscure the issue. It is natural for public servants to complain about private competition, just as private business complains about public competition. But if the terms of the competition are reasonable, there is every reason to suppose that it is healthy. Without it, both public and private enterprises have a way of ossifying. And if, as some fear, the public schools could not survive in open competition with private ones, then perhaps they *should* not survive.

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Corruption: the shame of the states

JAMES Q. WILSON

The best state legislatures, observed Lord Bryce over half a century ago, are those of the New England states, "particularly Massachusetts." Because of the "venerable traditions surrounding [this] ancient commonwealth" which "sustain the dignity" of its legislature and "induce good men to enter it," this body – called the General Court – is "according to the best authorities, substantially pure." About the time that Bryce was congratulating the representatives in the Massachusetts State House, these men were engaged in a partially successful effort to regulate the government of the city of Boston on the grounds that City Hall was becoming a cesspool of corruption owing, in no small part, to the fact that the Irish, led by Mayor John "Honey Fitz" Fitzgerald, had taken over. The chief instrument of state supervision over the suspect affairs of the city was to be the Boston Finance Commission, appointed by the Governor to investigate any and all aspects of municipal affairs in the capital.

Now, a half century later, the tables have been, if not turned, then at least rearranged. While no one would claim that the Boston City Hall is "pure," the mayoralty of John Collins (an Irishman) has aroused the enthusiastic backing of the city's financial and commercial elite. Many leading Brahmins work closely with the mayor, support him politically, and – most importantly – stand behind him in

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many of his often bitter fights with the governor and the state legislature. In contrast, the legislature has been plagued with endless charges of corruption and incompetence, the most recent of which have emerged from the work of the Massachusetts Crime Commission.

This Commission, created by the (reluctant) legislature in July, 1962 and appointed by Republican Governor John Volpe, (who had recommended its formation in the first place), was composed largely of the sort of men who used to be *in* the legislature rather than critics of it. In a state where the principal politicians are Irish and Italian graduates of (if anything) Boston College or the Suffolk Law School, the Commission was woven out of Ivy. The Chairman was Alfred Gardner (Harvard '18), senior partner in the austerely respectable law firm of Palmer, Dodge, Gardner and Bradford. Of the other six members, three were graduates of Harvard, two of Princeton, and another of the Harvard Law School. (Although at least one Irishman got onto the Commission, he was an investment consultant and retired brigadier general, and is probably more Yankee than the Yankees.) The American melting pot has obviously not changed the popular belief that, while the Irish are experts on politics, and the Jews experts on money, the Yankees are experts on morality.

The bad repute of Massachusetts government might seem an exaggeration to the casual reader of the recently published Comprehensive Report of the Commission. Except for a brief section on the Massachusetts Turnpike Authority, there are no juicy stories of boodle and skulduggery, nor any inciting accounts of the testimony. The legislature had taken pains to insure that it would not make the same mistake the United States Senate did when it created the Kefauver Committee. Public hearings were explicitly forbidden. All testimony was taken in secret sessions; as interpreted by the Commission, this restriction also forbade it from publishing the name of witnesses, direct accounts of their evidence, or details of allegations. If it suspected wrongdoing, the Commission was to turn its information over to regular law-enforcement agencies. And when the life of the Commission expired this year, the legislature made certain that its files were locked away in a vault, secure against further scrutiny.

But if the report is dull, the results were not. Attorney General Edward Brooke, on the basis of information furnished by the Commission, brought indictments against fifty-three individuals and fifteen corporations. About two dozen of the individuals were (or had been) state officials, and they included the former Speaker of the House, a former governor, the public safety director, two present and two former members of the Governor's Council, the chairman of the state housing board, and several former state representatives. One can be reasonably confident that much the same results could be produced by similar commissions in many other states, particularly industrial

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states of the Northeast such as Pennsylvania, Ohio, and the like. Many of these states would never have been described as "pure" by Lord Bryce at any stage of their history (he singled out New York and Pennsylvania as having legislatures that were "confessedly among the worst"); about all that seems to have happened in the last fifty years is that, on the whole, their governors have become more respectable and their political parties more disorganized, thereby transforming what once was well-organized, machine-like corruption into disorganized, free-lance corruption.

Three theories of corruption

Why should so many state governments seem so bad? The Massachusetts Crime Commission did not try to answer that question (it said it did not know whether corruption was worse in its state than in others), nor did it address itself to the more fundamental questions, "What is corruption?" "Why does it occur?" In short, the Commission did not develop a theory of corruption. This is not simply an academic deficiency (I am not trying to grade the Commission's report as if it were a term paper in a political science seminar); rather, it is a practical problem of the greatest importance, for without a theory of corruption there cannot be a remedy for corruption unless by happy accident.

There are at least three major theories of government corruption. The first holds that there is a particular political ethos or style which attaches a relatively low value to probity and impersonal efficiency and relatively high value to favors, personal loyalty, and private gain. Lower-class immigrant voters, faced with the problems of accommodation to an unfamiliar and perhaps hostile environment, are likely to want, in the words of Martin Lomasney, "help, not justice." If such groups come – as have the Irish and the Sicilians – from a culture in which they experienced a long period of domination by foreign rulers the immigrant will already be experienced in the ways of creating an informal and illegal (and therefore "corrupt") covert government as a way of dealing with the – to them – illegitimate formal government. The values of such groups are radically incompatible with the values of (for example) old-stock Anglo-Saxon Protestant Americans, and particularly with those members of the latter culture who serve on crime commissions. Whatever the formal arrangements, the needs and values of those citizens sharing the immigrant ethos will produce irresistible demands for favoritism and thus for corruption.

The second theory is that corruption is the result of ordinary men facing extraordinary temptations. Lincoln Steffens argued that corruption was not the result of any defect in character (or, by implication, in cultural values); rather, it was the inevitable consequence

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of a social system which holds out to men great prizes – power, wealth, status– if only they are bold enough to seize them. Politicians are corrupt because businessmen bribe them; this, in turn, occurs because businessmen are judged solely in terms of worldly success. The form of government makes little difference; the only way to abolish corruption is to change the economic and social system which rewards it. (Steffens admired Soviet communism because it was a a system without privilege: "There was none but petty political corruption in Russia," he wrote after visiting there. "The dictator was never asked to do wrong.") A less Marxist variation of this theory is more familiar: men steal when there is a lot of money lying around loose and no one is watching. Public officials are only human. They will resist minor temptation, particularly if everyone else does and someone is checking up. They are not angels, however, and cannot be expected to be honest when others are stealing (no one wants to be thought a fink) and superiors are indifferent. The Catholic Church, having known this for several centuries, counsels the young in its catechisms to "avoid the occasion of sin." The solution to this sort of corruption is, obviously, to inspect, audit, check, and double-check.

The third theory is more explicitly political and has the advantage of seeking to explain why governmental corruption appears to be more common in America than in Europe. Henry Jones Ford, writing in 1904, observed that in this country, unlike in those whose institutions follow the British or French models, the executive and legislative branches are separated by constitutional checks and balances. What the Founders have put asunder, the politicians must join together if anything is to be accomplished. Because each branch can – and sometimes does – paralyze the other, American government "is so constituted that it cannot be carried on without corruption." The boss, the machine, the political party, the bagmen – all these operate, in Ford's view, to concert the action of legally independent branches of government through the exchange of favors. The solution to corruption, if this is its cause, is to bring these various departments together formally and constitutionally. This, of course, is precisely what the National Civic League and other reform groups have attempted by their espousal of the council manager plan for municipal government, and what advocates of strong and responsible political parties have sought with respect to state and national government. If the chief executive, by virtue of either his constitutional position or his control of a disciplined majority party, is strong enough to rule without the consent of subordinates or the intervention of legislators, then no one will bribe subordinates or legislators – they will have nothing to sell. The leader himself will rarely be bribed, because his power will be sufficiently great that few, if any, groups can afford his price. (This is how Ford explained the lesser incidence of corruption in American

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national government: the president is strong enough to get his way and visible enough to make bribe-taking too hazardous.)

Crime commissions and reform groups in this country have at one time or another adopted all these theories, but at least one has now become unfashionable. Fifty years ago the Brahmins were quite candid about the defects they found in the Boston Irish politicians. These "newer races," as James Michael Curley called them, were considered to be the carriers of corruption. In 1965, the Massachusetts Crime Commission – perhaps out of politeness as much as conviction – begins its report by finding "no basis for saying that corruption in Massachusetts is the peculiar attribute of any one party or racial or religious group." This commendable tolerance is perhaps a bit premature: it is at least arguable that the various ethnic groups which make up our big cities and industrial states differ with respect to their conceptions of the public interest as much as they continue to differ with respect to style of life, party affiliation, and place of residence. The structure of government in many states of the Northeast is quite similar to that found in the Far West, yet the incidence of corruption appears to be significantly greater in the East. The historical reasons for this may include the differing values of the populations involved. While one can understand the reasons a public body might wish to avoid commenting on this, the result is that one theory of corruption is discarded *a priori* and all reforms are based on the other theories.

What happened to the cities?

The curious fact about all theories of corruption, however, is that they could apply equally to American cities as to American states, and yet it is the states (and to a considerable extent the counties) rather than the cities which are notorious for corruption. Although some corruption probably is to be found in almost all cities, and a great deal in a few, the most important fact about American municipal government over the last twenty years has been the dramatic improvement in the standards and honesty of public service. In no large city today is it likely that a known thief could be elected mayor (how many unknown thieves are elected must be a matter of speculation); a few decades ago, it would have been surprising if the mayor were *not* a boodler.

The reasons for this change are thought to be well-known – the reduction in the demand for and tolerance of corruption, owing to the massive entry of voters into the middle class; the nationalization and bureaucratization of welfare programs that once were the province of the machine; the greater scrutiny of local affairs by the press and civic associations; and the rise of forms of government – the council-manager plan and nonpartisanship – which make party domination difficult.

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But if these changes in American society have had profound consequences for city politics, why did they appear to have so little effect on state politics? To be sure, known thieves are probably not often elected governor, but few people outside the states of the Far West are under much illusion as to the standards of public morality which prevail in and around state legislatures and cabinets.

There are at least two reasons for the difference. The first is that the degree of public scrutiny of government is not the same at the state as at the city level. Big cities have big newspapers, big civic associations, and big blocs of newspaper-reading, civic-minded voters. State capitals, by contrast, are usually located outside the major metropolitan centers of the state in smaller cities with small-city newspapers, few (and weak) civic associations, and relatively few attentive citizens with high and vocal standards of public morality. The cosmopolitan, in Robert Merton's language, seeks to escape the small city and get to the big city; the locals who remain behind typically place a higher value on personal friendships and good fellowship than on insisting that government be subject to general and impersonal rules. (The Massachusetts state capitol is an obvious and embarrassing exception: it is located in Boston but seems unaffected by that fact. Perhaps this is because Boston newspapers are so poor and its civic life is so weakly organized.)

The other reason is that anyone interested in obtaining favors from government finds the stakes considerably higher at the state level. With the exception of urban renewal and public housing programs, the city government administers services rather than makes investments. These services are often controversial but the controversy is more about who is to manage them, how they are to be financed, and whether they are fairly and adequately administered. Education, public welfare, street cleaning, and police protection are important services but (with the exception of police tolerance of gambling) they are not likely to make many people very rich. States, on the other hand, disburse or regulate big money. They build roads and in so doing spend billions on contractors, land owners, engineers, and "consultants." They regulate truckers, public utilities, insurance companies, banks, small loan firms, and pawnbrokers; they issue paroles and pardons, license drivers, doctors, dentists, liquor stores, barbers, beauticians, teachers, chiropractors, real estate brokers, and scores of other occupations and professions; they control access to natural resources, and supervise industrial safety and workmen's compensation programs. The stakes are enormous.

At one time, the stakes in city politics were also high. In the late

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nineteenth and early twentieth centuries, big cities were making their major capital improvements – in the form of subways, traction lines, utility systems – and the value of the contracts and franchises was huge. Local government was formally weak – it had been made so deliberately, in order to insure that it would be "democratic" – and thus it was possible (indeed, almost necessary) for a boss or a machine to control it in order to exchange privileges for boodle.

Prohibition, and later organized gambling, extended the rewards of municipal corruption beyond the time when rapid capital formation was at an end. Organized crime remains a legacy of Prohibition which is still very much with us, but on different terms. There are no longer any Al Capones. The gamblers continue to corrupt the police but, except in the smaller towns – Cicero and Calumet City near Chicago, Newport and Covington near Cincinnati – they rarely manage (or even try) to take over the entire political structure of a city. And even these famous "sin towns" are rapidly being closed down. By the time urban renewal came along – a program of capital improvements potentially ripe for corruption – the coalitions of businessmen and mayors which governed most big cities and which were most interested in renewal as a "progressive" program to "save the city" were not inclined to allow the success of the program to be threatened by stealing. More importantly, urban renewal is far smaller in scale than the highway program; the opportunities for "windfall profits" are not vast; the program is surrounded by sufficient public controversy to make it very difficult to transact many deals under the table; and the federal government supervises local renewal much more closely than it supervises highway construction.

Unreconstructed state government

Ironically, the very things which made matters better in the big cities may have made them worse in the states. The preoccupation with urban affairs and the attendant close scrutiny of the conduct of those affairs has diverted public attention from state affairs. If it was true that state capitols were ignored in the past, it is doubly true today. The civic-minded businessman wants to save the central city; the liberal cosmopolitan wants to improve urban race relations and end urban poverty; the federal government, especially the White House, seeks closer and closer ties with the big cities – in part because that is where the voters are and in part because federal officials are increasingly desirous of establishing direct relations with their city counterparts in order to bypass what they often consider to be the obstructionism of the state bureaucracy.

The various governmental innovations – at-large elections, nonpartisanship, the council-manager form – which have made entry

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into municipal politics attractive to, and possible for, the non-party civic "statesman" have meant that increasingly the more traditional politician has felt uncomfortable in and disadvantaged by city politics. Elections for state office, which continue to be conducted under party labels in relatively small districts, are a more familiar and congenial experience. Success here can still come to the man with strong neighborhood ties, clubhouse connections, a proven record of party loyalty, and a flair for tuning the ear of his ethnic compatriots to the ancestral voices.

In short, if government is more corrupt in the states than in the cities, it is because all three theories of corruption (and perhaps others) apply with greater force to the states. The ethnic style of politics is weakening in the cities but not in the states; more boodle is lying around with no one watching in state capitols than in city halls; and state governments continue to be badly decentralized, with formal authority divided among a host of semi-autonomous boards, commissions, and departments. The states have rarely been subjected to the kinds of reforms which over the years have gradually centralized formal authority in the hands of a professional city manager or a single strong mayor.

The last point deserves emphasis. Governors are not "little Presidents." Their power of appointment and removal is sharply circumscribed. Duane Lockard estimates that only slightly more than half the 730 major administrative posts in state government are filled by gubernatorial appointments; the remainder are filled by election or by appointments made by the legislature or special boards and commissions. Nor does the governor generally have the full power of removal normally assumed to be the prerogative of the President. Only five governors can appoint their own superintendents of education; only half can choose their own men to run state departments of agriculture. Of equal or greater importance is the typical governor's weak position within the party and the interest groups which elect him. A governor who is the principal leader of his party and who has in addition a strong and popular personality may do well with little formal authority; lacking these, all the formal executive authority in the world may not suffice, if for no other reason than that the governor must still deal with an independent legislature.

The Massachusetts Crime Commission was not unaware of such problems but – perhaps because it was a crime commission rather than an "effective government" commission – it did not really come to grips with these issues. It was preoccupied with corruption that, in its view, could be attributed largely to the "occasion of sin" theory of wrongdoing. Dealing with such forms of larceny is relatively easy: employ well-qualified administrators selected on their merits to implement high professional standards. This, supplemented by careful

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inspection and audit procedures, will reduce or eliminate corruption in the letting of contracts, hiring of consultants, issuance of licenses, and regulation of conduct by such agencies as the Registry of Motor Vehicles, the Department of Public Works, the Massachusetts Turnpike Authority, and the Department of Banking and Insurance.

Recognizing that bookkeeper reforms alone are insufficient because they provide no ultimate checks on the behavior of the bookkeepers, the Commission sought to give elective officials clear authority over the behavior of their subordinates and clear responsibility to the electorate. Thus, many of the Commission's recommendations are designed to strengthen the formal powers of the chief executive — the governor and his principal subordinates —so that someone has the power and responsibility for weeding out corrupt underlings. The Commission follows a well-marked tradition: reformers, at least during this century, have favored strong executive authority. In this, of course, they have sometimes undone themselves: reformers correctly believe that a strong executive is less likely to tolerate or encourage corruption than a weak one, but they often forget that in the United States a strong executive is also likely to pay close attention to the demands of the masses. Legislatures, though more likely to be corrupt, are also more likely to be conservative. Reformers often secure cleanliness at the price of conservatism.

But because no attention is paid to the third cause of corruption— the need to exchange favors to overcome decentralized authority—the sort of executive-strengthening recommended by the Massachusetts Commission, while admirably suited to eliminating the occasion of sin, is not so well suited to dealing with legislatures or other independent bodies. The governor must not only be strong in his own house, but in the legislature's house and the party's house as well. Otherwise, the executive branch may be pure, but only out of impotence.

The uses of patronage

Unless we are willing to adopt a parliamentary form of state government (and I take it we are not), then the way in which a governor can get important things done (at least in a state like Massachusetts) is by having something to bargain with that both the legislature and the party value. There are several such resources: for one, his own popularity with the voters; and for another, favors and patronage. The latter the Commission rejects and, I suspect, ill-advisedly. Certainly, patronage abuses should be curtailed (in large part because, as the Commission notes, such abuses lower the morale of public employees). Furthermore, the cumbersome Massachusetts civil service system in its present form probably serves the interests of neither the reformers nor the politicians. (For example, the legislature frequently passes statutes "freezing" certain employees into

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their jobs. This not only protects some incompetents, it also makes it impossible for the governor to use these positions for patronage purposes of his own.) But I believe that patronage itself should not be eliminated entirely.

The Commission was of course aware of the fact that patronage is often used to induce legally independent officials to act toward some desirable goal. The Massachusetts Turnpike Authority under the leadership of the late William Callahan raised to a fine art the use of jobs, contracts, and insurance premiums for political purposes – but the Massachusetts Turnpike got built, and on time. The Commission faces the issue squarely:

> The methods [the chairman of the Authority] used to get results have had no small part in bringing about the deterioration in the moral climate of our state government. This deterioration in moral climate is of far greater importance to every man, woman and child in Massachusetts than the ease and comfort with which it is now possible to drive the length of the state on a multi-lane highway.

Perhaps. I suspect, however, that this is a question on which the people of Massachusetts might have some differences of opinion. It may well be that a deterioration in the moral climate of government and a concomitant weakening of the respect in which citizens hold their government are serious costs of corruption. But these costs, like all others, are matters of degree; hopefully, ways can be found to reduce them without a more than equivalent reduction in benefits.

What is clear is that the strengthening of the governor cannot be achieved by formal means alone, particularly if Massachusetts, like most states, needs two strong and highly competitive political parties.

If the Commission goes too far in some directions, it does not go far enough in others. The most serious cause of the corruption of law enforcement officials is organized crime; recognizing this, the Commission calls only for stronger laws, stiffer penalties, and a "reorganized" state police. "Bookmakers are not entitled to lenience." But raising the penalties against betting will not necessarily eliminate organized crime; it may only raise the price. Because more will be at stake, the police and the politicians are likely to demand bigger bribes and the criminals will be more disposed to use violence to protect their monopoly profits. At a time when the mayor of New York City is advocating offtrack betting, it would seem that some attention might be given in Massachusetts to lowering, rather than increasing, the incentives gamblers have to corrupt the government. (To be sure, in some states and cities vigorous police action has reduced gambling to a bare minimum, but these are states – like California – with very different histories and populations; unless one is prepared to reject entirely the "ethos" theory of corruption, one

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should not be too quick to conclude that equally good results can be obtained in any state.)

With respect to campaign contributions, the Commission confesses the limitations of its recommendations, which by and large follow a familiar pattern: better reporting systems, the removal of unrealistic and unenforceable limits on dollar amounts, and so forth. Such methods are not likely to deter the favor-seeking contributor, though they are likely to deter perfectly respectable contributors who feel that reports, inspections, and publicity involve too much trouble and possible embarrassment to justify giving anything at all. The Commission "leaves to others" a study of fundamental changes in methods of campaign finance. Unfortunately, calls for "more research" are likely to go unheeded.

It is, of course, easy to criticize crime commissions and to adopt a faintly patronizing tone toward reformers. This would be a mistake. The Commission has turned a number of highly-placed rascals over to the attorney general and the courts; and other, lesser rascals are likely to take heed – for the moment. But it would also be a mistake to make corruption (defined so broadly as to include "good" as well as "bad" patronage) the central issue. The central issue is that many states – Massachusetts is one – are badly governed in the sense that certain goals that should be sought are not, and others that should not be, are. The central problem is the problem of power – how can it be used responsibly but effectively for socially desirable ends? Power is hard to find and harder to use wisely, in great part because in many states we are destroying its informal bases (favors, patronage, party discipline) faster than we are building up its formal bases (legal authority). The result increasingly is that, with the states unable to act, they are being bypassed by cities (where the most visible problems are to be found) seeking the assistance of the federal government (where the power is). To the extent that the recommendations of the Massachusetts Crime Commission and its counterparts elsewhere can strengthen the legal capacity of a state to govern, they will have been worthwhile. To the extent they are used only for piecemeal attacks on the more titillating and exotic forms of public corruption, they may do more harm than good.

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The high cost of hospitals

MARTIN E. SEGAL

A recent radio commercial for the nation's largest hospitalization plan began: "Each year the cost of hospitalization has gone up. The reasons are obvious. . . ." It didn't, however, go on to give these reasons; for in fact they are not so obvious.

Hospital costs are a personal irritant, a political whipping boy, a subject for demogogic outcries – and a genuine major problem in every U.S. community. The steady, almost geometric, rise in hospital costs threatens the existence of prepaid hospital plans like Blue Cross, of employee benefit plans, of family plans for education and housing and retirement, and of every community's provisions for adequate health care. Yet despite the gravity and universality of the problem, too little is known of its causes. Inevitably, too little has been done for its cure.

One reason for the year-in, year-out fumbling with this major social problem is ambivalence. Physicians are ambivalent about their roles as healers and as wage-earners; hospitals are ambivalent about their roles as institutions of healing and as enterprises in a cost-accounting society; patients swing between the extremes of do-anything-to-ease-this-pain and what-will-it-cost-me; hospital visitors stare in awe at the complicated machinery that keeps a moribund patient alive, and look askance at the sloppy work of an underpaid, resentful porter.

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Added to the ambivalences are a series of anomalies. The physician, who has only a tenous relationship, or none at all, to the business and administrative side of the hospital in which he treats his patients, can, by his actions, control hospital costs. The patient, who pays the bill, has neither a voice in, nor knowledge of, the costly tests to which he is being subjected. The public, theoretically in favor of decent wages for all workers, particularly workers at the lowest end of the economic scale, protests the increases in hospital prices occasioned by wage increases. And government, deeply concerned about the yearly increases in hospitalization insurance premiums, is party to these increases by refusing to pay the full cost of indigent patients who are the responsibility of the governmental units.

In addition, there is sheer lack of knowledge. Hospitals are quasi-public institutions, supported in part by public and philanthropic funds, given special status by the laws. Though erected and operated solely to serve the public, most are reluctant to reveal the basic economic facts about themselves. It is altogether probable that a majority do not *know* the basic economic facts about themselves. In preparing this article, 15 hospitals were asked to name their sources of income and types of expenditures – e.g., wage rates, number of employees, charges, reimbursements – during four key years. Seven gave information, full or partial. The others were too busy, too suspicious, or too abashed to admit that they had no such figures.

In the face of these ambivalences, anomalies, and a wide lack of understanding, what are the ascertainable facts?

Item: Of the four major components in the Consumers Price Index for December, 1964, three – food, housing, apparel – showed increases of about 7 index points from the 1957-59 base. Medical care was up more than 20 points. And a breakdown of the medical care component shows that the index for drugs at the end of last year was 98.1; the dental cost index was 115.7; physicians' fees stood at 118.8 – and the index for hospital charges was 147.4.

Item: In one medium-size hospital in the East, rates for semi-private rooms went from $16 per day in 1950, to $37 in 1960, to $46 in 1964. In the same city, average daily charges at a teaching hospital for a semi-private room and necessary services went from $21 in 1950, to $44 in 1960, to $78 in 1964. In a West Coast hospital, semi-private room charges (bed and board only) rose from $14 to $33 in the 1950 to 1964 period.

Item: In a major Blue Cross association, monthly subscription rates for a 21-day family contract, on a group basis, were $3.50 in 1950, $8.06 in 1960, and $10.66 in 1964 – more than a 200 percent increase in less than 15 years.

These statistics are indicators, not descriptions, of a malaise in a major U.S. industry. And the provision of health care must be viewed,

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at least in part, as an industry, if this problem is to be attacked intelligently. The problem has keen personal consequences; it can result in personal tragedies. It has serious professional aspects; how it is resolved will determine the future course of American medicine. It has major social consequences; the health of the community is at stake. But it is also the problem of the third largest industry in America, in terms of number of employees. It is an industry that takes in and spends about $35 billion a year (going up every year); of which more than 75 percent comes from the private sector of the economy.

The increasing costs of labor

The reasons for the sharp increase in hospital costs are as different as the individuals providing them. An American Medical Association official says the basic cause is the rise in wages. Another expert lays the cause to the scientific explosion in medical care, necessitating high-cost equipment and high-cost drugs. Still another analyst includes the effect of higher personal income, which increases hospital use. One lays the major cause to the growing number of people who have hospitalization insurance, and insist on using it. A government official blames "haphazard planning." And one expert says the higher costs are, in part, an illusion. He says that daily charges are up, but that stays are shorter – the former 14-day stay at $20 a day is the same as the present 7-day stay for the same illness at $40 a day.

An examination of which items in the melange of hospital expenditures have gone up, and why, would seem to be in order.

Undoubtedly, wages of hospital employees have gone up, certainly should have gone up, and will continue to go up. But, and this is contrary to the trend in most other industries, higher wage rates have not been paralleled by a drop in the number of wage-earners. Hospital employees have increased in gross number, and in number per 100 patients, while hospital wages have increased.

Bureau of Labor Statistics wage studies made in 1956 and 1963 show:

Average weekly earnings of general duty nurses in hospitals in Boston rose 42 percent in the seven-year period; the rise was 31 percent in Chicago, 42 percent in New York City, and 34 percent in Los Angeles.

Wages of x-ray technicians rose 63 percent in Boston, 30 percent in Chicago, 41 percent in New York, and 28 percent in Los Angeles.

Hospital clerks' wages rose 33 percent in Boston, 21 percent in Chicago, 39 percent in New York, and 38 percent in Los Angeles.

Hourly rates for maintenance electricians rose 35 percent in Boston, 47 percent in Chicago, 53 percent in New York, and 59 percent in Los Angeles.

Porters' hourly wages rose 31 percent in Boston, 48 percent in

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Chicago, 77 percent in New York, and 28 percent in Los Angeles.

(The wide variations in increases, particularly in non-professional categories, are one aspect of the union organizing drives among hospital workers.)

To these average figures we can add illustrative ones:

In a medium-size West Coast hospital, the monthly salary of a resident physician was $100 in 1950, $200 in 1955, at least $300 in 1960. Today it ranges from $400 to $1,000 a month, depending on need, scarcity, and degree of training.

Interns, traditionally the hungriest of apprentice professionals, were receiving $35 a month in 1950 in a non-teaching hospital. Their salaries are ten times higher today – $350 a month.

In a Chicago hospital, registered nurses' salaries rose by almost 25 percent in the four-year period 1960-64 – from $400 a month to $495. In the same hospital, practical nurses, almost unknown a comparatively short time ago, got a $50 a month increase in the same period – to $336. Porters got a larger increase in the four-year period – from $208 to $277 – perhaps as a result of union activity.

Wages are but one part of the sky-rocketing payroll costs of a modern hospital. Personnel increases are the other. In 1954, U.S. short-term voluntary non-profit hospitals employed 207 people per 100 patients. In 1964 the rate was 247 per 100 patients. There were wide variations among regions of the country. In New England, the average patient had the services of 2.73 hospital employees; in the Middle Atlantic states the figure was 2.47 employees per patient; in the South, 2.34 employees per patient; and on the Pacific Coast, 2.80.

Why so many employees? Certainly not because of over-staffing. If anything, hospitals are understaffed. But hospitals are the victims of a technological revolution with some reverse effects. In steel, chemicals, textiles, banking, and most other industries, a technological advance is accompanied by a drop in necessary employees. The industry can produce more and more with fewer and fewer people. Not so in hospitals. Almost every major advance in medical technique requires more – and better trained – employees.

A modern hospital is a technological complex that also provides a personal service. Much of nursing may eventually be computerized, automated. It hasn't been yet. And if it ever is, no one will cheer when the proper pill drops out of a receptacle in the bed instead of being brought by a nurse – even by an overworked nurse who is understandably testy.

The great mechanical and technique advances in medicine – the heart-lung machine, the cobalt bomb, the kidney machine, open-heart surgery, vascular surgery – all require more technicians, not fewer. A 2-million volt x-ray machine used for deep cancer therapy costs about $125,000, plus about $75,000 for installation. It needs 15 tech-

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nicians of various grades to keep it in operation.

All of this helps explain the increase in the percentage of total hospital costs going to payroll. In 1950, total expenditures of voluntary short term hospitals in the U.S. was about $1.5 billion; this had risen to $6.0 billion in 1964. The percentage of these tremendous sums spent on payroll increased from 56 percent in 1950 to 61.5 percent in 1964. This 61.5 percent figure contrasts with about 25 percent of total costs spent on payroll for industry in general.

A more significant breakdown of money spent is in the radically changed division of expenditures among medical costs, nursing costs, and the "hotel" costs of hospitals.

In the immediate post-war period, the "hotel" costs of running a hospital (room, board, linen, cleaning, etc.) took 50 percent of total hospital income; nursing took 22 percent; medical costs were 27 percent of the total. Fifteen years later, these had changed as follows: "hotel" costs dropped to 28 percent; nursing costs rose slightly to 29 percent; medical costs rose sharply to 47 percent.

These figures bear out the belief that rising labor costs are a major factor in rising hospital costs. And in society's terms, the increase is salutory: more people to serve the sick, better trained people, higher paid people. Can fault be found with paying a kitchen man $65 a week rather than $25? A resident physician $400 a month rather than $100? Obviously not. But the end result is higher hospital costs. And since even $65 a week is generally regarded as less than a man working fulltime should earn, that figure, and all the other wage figures, will continue to rise. Hospital costs will rise with them.

The changing hospital

Another major factor in the increased costs of hospitals is the result of the changed nature of the hospital itself. We are not too far removed from the time when hospitals were expected only to *care* for the sick. Today we expect hospitals to *cure the sick.* (In both cases, sick is defined as seriously ill.) And we are in the process of still another change; tomorrow's hospitals will be expected to care for the healthy and cure both the moderately and the seriously ill.

The extraordinary advances in medicine that lie behind this change do not require elaboration. On the West Coast, patients with non-functioning kidneys — normally fatal — carry on their daily tasks. At regular intervals they return to a hospital to be connected to a remarkable machine that performs the kidney function. In Texas new arteries are inserted in the body to take the place of old. In New York, a team of ten physicians and technicians close a congenital wound in a beating heart. Across America, 3,000 people walk about with an electronic gadget which regulates the beating of their hearts embedded in their bodies. To perform these "miracles" requires enormously

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expensive technicians. This obviously will increase the costs of hospitals.

On a more prosaic level are the routine tests and X-rays that accompany any hospital stay. A large Eastern teaching hospital had about 22,000 admissions (not counting newborn babies) in 1950. These patients received an average of 18.6 laboratory tests and examinations (blood tests, electrocardiograms, urinalyses, etc.). In 1964, with 27,000 admissions, the number of tests and examinations in this hospital had risen to 30 per patient. This represented an increase of about 60 percent. But the cost of these tests had risen from an average of $8.40 per patient in 1950 to an average of $28.50 in 1964 – about a 240 percent increase! We have not only many more tests, but much more expensive tests.

The number of X-rays increased only slightly in this hospital between 1950 and 1964 – from 10.5 films per patient to 11.1 films. But X-ray costs increased from $15.20 per patient to $33.50 per patient. And the cost to the hospital of drugs given patients rose from $7.84 per patient in 1950 to $28 per patient in 1964.

Here, too, no one can – or should – cavil at the increases. The wonder drugs that cure or allay hitherto fatal diseases are a boon. The complex diagnostic aids provided by tests and X-rays are a must in any well-run hospital. But they add significantly to the hospital's costs.

More employees, higher wages and salaries, more costly diagnostic and therapeutic devices and drugs – these are the guts of the hospital cost increase. But neither patients nor government nor third party groups financing hospitalization worry overmuch about gross hospital costs. They react only when *the patients'* costs increase. *And patients' costs have increased at an even higher rate than total hospital costs.*

An analysis of income to hospitals – both large and middle-size, teaching institutions and non-teaching institutions – shows a marked change in the percentage of income derived from each of four traditional sources of hospital money: patients (or patient insurance), government, philanthropy, endowment.

Government income has held about steady as a percentage of total hospital income. In three different types of hospitals, in the 15-year period 1950 to 1964, the percentage of total income from government sources changed by one to three percentage points; in two cases the percentage increased slightly, in one case it dropped slightly.

Philanthropy's contribution to total income of these hospitals dropped in one case from 38 percent to 10 percent; in a second hospital, from 9 percent to 2 percent; from 8 percent to 4 percent in a third hospital.

Generalizations cannot be made about endowment income. This source varies too widely among hospitals, But it, too, would appear to

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be providing smaller and smaller shares of total hospital income. In these three hospitals, endowment income increased as a share of total income in the smallest hospital. It dropped from 11 percent to 3 percent in the largest hospital; and from 3 to 1 percent in the middle-size hospital.

However, in each of these representative hospitals, ranging in size from 200 beds to 1,100 beds, the share of income coming from patients increased sharply. In one hospital the share of hospital income from patients and their insurance increased from 46 percent to 62 percent; in a second hospital it increased from 77 percent to 85 percent; in a third hospital (a teaching institution) it increased from 61 percent to 78 percent.

Wilful misunderstandings

These are the facts. They could serve as the foundation for a logical approach to the resolution of the hospital costs problem. Realistically, costs cannot be reduced, at least not significantly. But they should be amenable to rearrangement and containment. Why has this not so far occurred? With the immensity of talent applied thus far to the problem in hearings, studies, and symposia, why hasn't more progress been made? In large part because every reasonable approach must make its way through a morass of misunderstanding, deliberate misinformation, emotional responses, and some political demagoguery.

There is a large body of popular opinion that has a diffuse and inchoate animus against hospitals. A great many people, for instance, believe that doctors who run and staff hospitals are calloused, indifferent. Undoubtedly, the friendly family physician who used to grace the cover of the *Saturday Evening Post* has disappeared from the hospital (and everywhere else, too). The authoritarian father-cum-God figure of the doctor is a memory. But this isn't altogether bad. The change stems in part from the higher educational level and greater sophistication of the patient: he now sees the doctor as a practitioner of a science rather than as a magician. If the older family doctor were to turn up in a modern hospital, the patient would be scared silly at his lack of specialized competence. Meanwhile he is free to indulge in nostalgic daydreams of a doctor who *really* cares about *him*.

It is, of course, true that there are doctors and hospital personnel who spend more time over the latest billing and collection procedures than over the therapeutic claims of the latest medicine. But any generalization downgrading the competence, sensitivity, or dedication of the 250,000 physicians in the U.S. is certainly false.

Our attitude toward the hospital itself has, in the first half of this century, moved between two extreme views. The older view saw the hospital as a place in which to die; in the more recent view a hospital

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was a place where the dead – at least the near-dead – were made to live again. But in the past decade or so, the concept of the hospital-as-miracle has receded sharply. Contributing to this disenchantment is the fact that hospitals can perform only some miracles, and those only some of the time. This given fact, in turn, reinforces the emotional state of most people on the only occasions when they have immediate contact with the hospital.

The average citizen sees the reality of the hospital in one of two circumstances – either as patient, or as visitor to a patient. When he is a patient he generally is in pain, apprehensive, frightened of the machines that doctors and nurses and technicians wheel up and attach to him. His sleep is broken for what appear to be meaningless purposes. The food is bad. He has to wait interminable (to him) periods for attention. His visitors, upset because of the illness of the relative or friend, uneasy in the hospital, listen to the patient's recital of woes, see nurses fiddling with charts while patients are (they think) in pain and dying. For most people, this is the totality of hospital experience. So they are all too ready to believe the worst about hospitals, and to have the direst suspicions about hospital economics.

On top of this is the American public's "stick-em" attitude toward insurance companies. Give the average citizen a chance to collect from an insurance company and he imagines himself a latter-day Robin Hood. The fantasy is not helped by the widespread belief that insurance companies are wallowing in a bonanza flowing from health insurance premiums.

Some insurance companies have indeed made unconscionable profits from some forms of health insurance. More than one insurance company returns in benefits less than 50 percent of its premium income from senior citizen health policies. (Medicare will take care of these companies.) But most health insurance is bought on a group basis, rather than as individual policies. And insurance companies are not finding these policies a bonanza.

The demogogic use of the hospital cost problem is well illustrated by what happened in New York State during the last session of the legislature. Hearings on a request by Blue Cross for a rate increase brought forth oceans of statements. Few added either to the knowledge of the legislators or to public understanding. They were, for the most part, forms of political posturing.

The result of the days of hearings and of the hundreds of thousands of words of testimony was a bill to reduce the legally allowable administrative expenditures of Blue Cross from 30 percent to 15 percent of premium income. This appeared to be a great step forward. It was hailed by government officials, the press, and the public. But any legislator who kept his ears open, and any member of the public who had a desire to know, could have found out that the administra-

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tive expenses of the Blue Cross Plan making the request for a rate increase were only about 5 percent of premium income. The legislature's action didn't touch the problem; didn't even address itself to the problem. The result was an exercise in pure nonsense. Passage of the bill meant absolutely nothing. No Blue Cross plan was affected, because their administrative expenses were well below 15%; no hospital was affected; no hospital costs were affected; and there was no effect whatsoever on the cost of hospital insurance. The one substantive measure taken by the legislature was to reduce the percentage of Blue Cross income necessary as a reserve. This is a form of bookkeeping hocus-pocus, since reserves are obviously necessary and the reserve funds channeled into the association's operating revenue will never be recovered.

The role of the doctor

Nevertheless, despite the statistics that show that some kind of increase in hospital cost is inevitable, it does not follow that this increase cannot be contained. There is much that is wrong with the operation of hospitals, their administration, their planning.

The relationship between the doctor and the hospital is at the heart of the problem. Through competence, seniority, or politics — generally a combination of all three — a doctor becomes a member of a hospital staff. From that point on, with almost no controls other than that of his own conscience, the doctor can determine the largest of the three components of hospital cost, and seriously influence the other two.

The doctor controls these costs in the first instance by determining whether the patient goes to the hospital at all. Unnecessary hospitalization — a serious problem contributing to the increase in costs — is not the wicked invention of an anti-professional cabal. A study of admissions to five hospitals, made by a leading medical institution, showed that hospitalization was "medically necessary" in 87 percent of the studied cases. In 5 percent of the cases no definite judgment could be made. And in 8 percent of the cases there was no true medical indication for hospitalization. Among the five hosiptals, unnecessary hospitalization ranged from 5 to 20 percent.

Another study of hospitalization of patients covered by an employee welfare plan confirmed the above, though the percentages were different. This analysis showed that 15 percent of medical cases (non-surgical) were in the hospital unnecessarily; the necessity for hospitalization of an additional 2 percent was doubtful. The method used in both studies was to have independent physician surveyors — specialists in the appropriate fields — study the medical charts and histories and make objective decisions. (The latter study also found another and far more serious indication of medical capriciousness. Of

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60 hysterectomies performed on patients surveyed, one-third were found to be unnecessary; another 10 percent was questionable. And the surgical surveyor raised serious questions about the necessity for 7 of the 13 Caesarean sections which had been performed on patients.)

Few doctors deliberately send patients to the hospital knowing that hospitalization is unnecssary. What, then, are the pressures and unconscious motivations acting upon them? Some doctors argue, even if only among themselves, that it is far more efficient, much better medicine, to have 10 or 20 or 30 patients in one place, where the doctor can see them all within an hour or two, rather than waste his time and energies traveling from home to home. Others give in to a form of patient blackmail. The patient, conscious of the fact that he is covered by insurance or an employee benefit plan, insists on hospitalization rather than home care.

And then there are the pressures exerted by some hospitals themselves. Hospitals operate at a lower cost per patient with occupancy rates close to capacity. Basic costs are substantially the same, regardless of whether occupancy is 70 or 80 percent of capacity. But appointments to hospital staff may be hard to come by, particularly in large metropolitan areas. So doctors may be judged in part according to how many patients they bring to the hospital. The doctor who treats most of his patients at home, who has only one or two patients in the hospital, may have trouble. (The problem of proprietary hospitals falls into another area. These are profit-making enterprises, often owned by doctors. Patients are customers. And the more customers, the greater the income, the higher the profits.)

That the illness for which one doctor hospitalizes is the illness another doctor treats at home is indicated by the varying regional patterns of hospitalization. The people of Pennsylvania and New Jersey are not healthier than the people of Vermont and Massachusetts. Yet the hospital admission rate in the Middle Atlantic states was 126 per 1,000 population, while the rate in the New England states was 139 per 1,000 in 1963. Similarly, the people of California and Oregon are not healthier than the people of Colorado and Montana. Yet the hospital rate in the Pacific states was 129 admissions per 1,000 population, compared with a rate of 141 per 1,000 people in the Mountain states.

Age and birthrate can influence admission rates. But there is no correlation, in this respect, between areas with high birthrates and high percentages of elderly and their hospital admission rates. New England, for example, has a low birthrate but a high admission rate. The Mountain States, have a low 65-plus population but a high admission rate.

A second cost factor within the physician's province is the day of admission. Adapting to modern work patterns, many hospitals, in

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effect, operate on a five day week schedule. They maintain only emergency crews in their laboratories and X-ray departments on weekends. Unless they are emergency cases, patients entering the hospital on Fridays and Saturdays must wait until Monday for the basic tests required before therapy can get started or surgery scheduled. And, barring emergencies and maternities, most patients can wait a day or two to enter the hospital. Yet in many hospitals, Friday admissions average higher than admissions on other weekdays. Result: a few wasted days in the hospital – which must be paid for by the patient or his insurance plan.

Another cost factor within the control of the physician is the length of stay. That doctors do make decisions to discharge patients on grounds other than medical is indicated by an analysis of lengths of stay in about 90 hospitals in a metropolitan area. Patients covered by commercial insurance plans averaged 8.6 days in the hospital; those paying their own way averaged 9.1 days; those covered by Blue Cross averaged 9.8 days; those covered by workmen's compensation averaged 11.5 days; those paid for by public welfare averaged 12.5 days.

Even if we eliminate public welfare patients, who tend to be older and sicker than self-supporting patients, it is evident that people paying all or part of their own bills (those covered by insurance generally are reimbursed only part of the total hospital charge) stay fewer days in the hospital than those fully covered – e.g., Blue Cross and workmen's compensation patients. (It cannot be assumed that people who have Blue Cross or other insurance become less seriously ill less frequently than other people.) This is confirmed by an analysis of the experience of Federal civil service employees, who have a choice of Blue Cross or private insurance coverage. Non-maternity hospitalization of Federal employees and dependents covered by Blue Cross were 99 per 1,000 people; hospitalizations among those covered by private insurance were 78 to 1,000. Days of hospitalization were 826 per 1,000 people covered by Blue Cross; 708 per 1,000 for the privately insured.

These figures do not indicate irresponsible conduct on the part of physicians. A mother, medically ready for discharge, may plead for another few days of rest before going back to home and children. If there is no direct cost to her husband, the doctor may delay the discharge. But the bill must be paid by the total group, by the community, by society. It is, in effect, a social problem. But it is added to the cost of hospitals.

Toward containment of costs

A quiet struggle has been going on in hospitals over the use of brand-name versus generic drugs – and, indirectly, over that share of hospital costs represented by drugs. Of the 1,500 to 2,000 items in a

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well-stocked hospital pharmacy, a majority were unknown in the 1940's. These new drugs are another indication of the revolution in medicine. They also cost a lot of money. Evidence before Congressional investigating committees has shown an enormous difference in price between a brand-name drug and exactly the same drug sold under its generic or chemical name. Doctors tend to prescribe the brand-name drug. Many hospital administrators prefer dispensing the generic drug – it's a lot cheaper. But no one can change a doctor's prescription. Some hospitals now dispense mainly generic drugs, others still hold fast to the brand names.

There is also widespread belief that hospital costs are inflated by mismanagement. Doctors themselves are included among those who believe this. In a recent issue of a leading medical magazine, a physician claimed that some hospital bills could be cut by one-fourth by proper management and realistic pricing. He cited orders for laboratory tests that were totally unnecessary. Some of these tests were ordered by interns and residents who wanted reassurance rather than necessary diagnostic aids. Also cited were charges for blood that were excessive in view of the fact that half the blood in the country is supplied by the Red Cross – and some chapters do not charge hospitals for the blood they provide. Finally, the doctor-author pointed to medicine charges of $40 a day for one patient – the patient had been taking the same medicines while at home at a cost of $2.70 a day.

These charges are valid. But many laymen's charges against hospitals of inefficiency and mismanagement rest on much weaker ground. A hospital – albeit a highly technical complex operating under business direction – cannot be measured by the standards used for industrial or commercial enterprises. For one thing, a major function of a hospital is to provide standby emergency services, some of which are used, some are not – all are paid for. Operating rooms must be ready for immediate use 24 hours a day, 7 days a week, even if 90 to 99 percent of their use is made between 8 a.m. and 4 p.m., Mondays through Fridays. Tremendously expensive life-saving equipment – high-energy X-ray machines, cobalt bombs, heart-lung machines – have to be available, even if they are used only once a week. Staff must be available, beds must be available, although having them stand idly by, waiting for use, is "inefficient." This type of inefficiency is socially desirable, and confusion along these lines, no matter how "hard-headed" it may superficially seem, is frivolous.

Yet hospital costs can, and must be, contained. The institution of some of the following changes will help achieve this end:

1. No community should be without, or beyond the reach of, every new life-saving machine and technique. But this does not mean that every hospital in the community must itself have these expensive technical devices. In many metropolitan areas, more hospitals have

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these machines (and the teams to operate them) than would appear rationally justifiable. It would make more economic sense to send all open-heart operations to one or two hospitals in an area, all patients requiring cobalt therapy to another, keep the kidney-function machine in a third, etc. Unfortunately, some real – as well as some specious arguments – stand in the way of the adoption of such a system.

Such an arrangement, to deal with a superficial problem first, would lessen the status of some hospital services, perhaps lessen the number of chiefs of service. Doctors – and donors – do not like this. They conceal these genuine interests behind more reasonable-sounding arguments, but status and publicity are their real concerns. Then, of course, there is the more legitimate fact of the tight protocol of hospital connections. Under present systems of doctor-hospital relationships, the physician whose patient needs open-heart surgery would lose contact with his patient if the patient had to go to the one hospital in the community that handled this type of operation. Neither of these problems is insuperable. But each is real enough, in its own terms.

2. The cost problem will not be ready for solution until we know its exact shape, dimension, sources. This is impossible at present because almost every hospital has its own unique accounting system; its own notion of what the public has a right to know and what is private to its trustees and management team. A uniform accounting system is a prerequisite to any attack on hospital costs. From such a system would stem uniform reimbursement formulas for insurance and prepaid hospitalization plans.

3. Electronics is, in some ways, the key to many of the component problems of hospital costs. There is no doubt that computers can help solve personnel problems, the problems of the business side of hospital operations, laboratory problems, nursing problems, drug problems – even storage problems.

To take the latter, and lesser, problem first: One typical hospital now has 800,000 X-ray films on file, with the diagnoses themselves being filed separately on the patient's charts. These films, which must be kept for a long time, take up a great deal of space, and require special librarians to keep, and classify, and find the films. Modern technology can reduce these X-ray films to 2-inch transparencies, with the diagnosis keyed into the film; it can store them in a small unit and automatically find the proper film when it is called for. The 2 x 2 transparency can be projected onto a screen or printed in large size as needed. This comparatively simple technological innovation saves space, save jobs, saves money.

One New York hospital recently added a computer to its existing electronic data processing machines. The computer has the capacity to control and substantially extend the work of the other machines. On the business side, this hospital is now able to automate record-

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keeping, payrolls, personnel records, billing, and many other paperwork jobs. Applying the new technology to these tasks costs $75,000 over a period of three years. But it also permits the hospital to cut down by 12 to 15 the number of administrative jobs. (These are reduced by attrition rather than firing – and in almost all metropolitan areas, clerical jobs are hard to fill and easy to empty.) This computer is about to be tied into the hospital's laboratory. When this is completed, the computer will be able to operate six auto-analysers which do blood chemistries, urinalyses, etc. The number of technicians – now one per auto-analyser – will drop to one more highly trained (and higher paid) technician plus one helper.

An automated drug dispensing system is also saving a great deal of money in this hospital. The system's cost, $96,000, was met by savings accumulated within 11 months. The drug dispensing system has a unit at each of the hospital's 18 major nursing stations. Each unit, looking somewhat like a vending machine, has place for 96 separate drugs and is filled regularly by the hospital pharmacist. In order to dispense a medicine, the machine requires the nurse's key, the patient's name plate, and the identification plate for the specific medicine. When the machine is operated, it automatically prints a charge slip for the medicine and drops it into a sealed box. True, some hospitals have tried this dispensing system and found it wanting. But where it works, it saves money, saves mistakes, and – as an extra dividend – almost eliminates another constant and sizeable hospital cost: theft of drugs. There is also another money-saving side-effect: the machines are filled with generic rather than brand-name drugs. Doctors become conditioned to prescribing the drugs in the machine and so tend more and more to use drugs identified generically.

Another area in which electronics saved money in this hospital (by eliminating mistakes rather than by eliminating personnel) was in the charges for intravenous (IV) solution. The bottles of IV solution are normally kept at the nursing station and are marked on the patient's records when used – if the nurse remembers, and if the billing office can make out the nurse's penciled notation. Affixing an electronic data processing card to each bottle, and requiring the patient's name plate to stamp each card as the solution is taken out of the nursing station, picked up $12,000 in charges for IV solution alone at this hospital.

These three areas of suggested change – joint use of high-cost technological advances, uniform accounting and greater accountability, and automated, computerized hospitals – are preliminary steps toward the solution of the problem of hospital costs. The total solution envisages even more revolutionary concepts. It requires a basic change in the nature of our system of health care. This is best illustrated by constructing a model of a future general hospital.

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The model hospital

Based on a reorganization of hospital facilities and hospital staff around the medical and nursing needs of the patient, this hospital would provide five types of care: intensive care, intermediate care, self-care, long-term care, and hospital care in the home.

The intensive care unit would handle seriously ill patients regardless of diagnosis. In hospital terms, the person seriously ill with a heart attack or kidney failure or respiratory illness needs essentially the same complex of aids and attentions as the person seriously ill after surgery. The patients in this intensive care unit would be under constant electronic audio-visual observation of a nurse. The unit's life-saving equipment would be selected, and the nursing staff would be specially trained, for this duty.

The intermediate care section would contain patients, also without regard for diagnoses, in need of moderate nursing care; it would not need to have emergency life-saving equipment immediately available. These patients would be ambulatory for short periods and could help themselves a little.

The self-care unit would take care of convalescent patients and those in the hospital for diagnosis. They would have hotel-type accommodations, need minimum nursing, and would take care of themselves almost entirely.

The long-term unit would take care of patients requiring prolonged care.

The fifth unit, home care, would send hospital services – with associated visiting nurses and homemakers – into the home to make it possible for physicians to care for many patients without hospitalization.

Of course, this concept of hospital care would require almost total rebuilding of most hospitals. The American community would have to spend a great deal of money to save a great deal more – while improving the health facilities of the nation. But our hospital plant is already somewhere between obsolescent and obsolete. Despite the massive injection of Hill-Burton funds, American hospitals are old. About 1,300 short-term general hospitals were built since the end of World War II. That leaves about 4,400 hospitals over 20 years old and many over 50 years old. Few industrial plants – perhaps none with a technology as complex and as new as medicine – are unchanged since 1945.

American communities are in the paradoxical situation of holding down hospital construction, while needing hospital reconstruction. They are holding down hospital construction because unregulated hospital building increases hospital costs: few areas have actual deficits in necessary hospital beds, and every new bed in a non-deficit

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area adds to the cost of the other beds. Patients in a hospital with a low occupancy rate have to pay for the upkeep of the unused rooms, for the staffing of unused beds, for the fuel and light and cleaning of unused areas of the hospital. And most hospital reimbursement formulas are based on total hospital costs – including unused beds.

Some states have established regional hospital councils with limited power to regulate hospital construction, even to suggest consolidations and closings. But it is hard, sometimes politically impractical, to get a community to give up its old, inefficient hospital – or to talk a philanthropist out of immortalizing his name on a new wing added on to an old hospital.

On the other hand, new hospitals have to be built – it is generally less costly to tear them down and build new ones rather than rebuild existing structures – if they are to incorporate the advances of a rationalized technology.

The U.S. hospital problem is serious. To say it is deadly serious is not a pun. The problem is given added weight by the passage of the Social Security hospitalization program for all persons 65 years old and over. And the problem is too serious to be left in the hands of physicians, or physicans plus hospital administrators and trustees, or these two groups plus government officials. It requires the good will, the maximum efforts, of these entities. But more, it requires the mobilization of the consumers of hospital services. Their pocketbooks are involved – and their lives.

Where do we begin? Perhaps with a Presidential commission to map the extent of the present problem, to analyze its roots, to separate long-range from short-term goals, to apportion medical-education costs and patient-treating costs, to determine whether we can afford less than optimum quality care in our hospitals. These are a few of the areas that demand exploration. But the findings cannot be piecemeal or partial or local or special. This is a national problem that demands a national solution. If no resolution is forthcoming we can look forward to continued sky-rocketing hospital costs, to continued diminution of the quality of care, and – eventually – to a breakdown in our system of health care.

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White House and Whitehall

RICHARD E. NEUSTADT

Cabinet government, so-called, as practiced currently in the United Kingdom, differs in innumerable ways – some obvious, some subtle – from "presidential government" in the United States. To ask what one can learn about our own system by viewing theirs, may seem far-fetched, considering those differences. But actually the question is a good one. For comparison should help us to discriminate between shadow and substance in both regimes. A look down Whitehall's corridors of power might suggest a lot of things worth noticing in Washington.

For a President-watcher, who tries to understand the inner workings of our bureaucratic system by climbing inside now and then, and learning on the job, it is no easy matter to attempt comparison with the internal life of Whitehall. How is one to get a comparable look? Those who govern Britain mostly keep their secrets to themselves. They rarely have incentive to do otherwise, which is among the differences between us. Least of all are they inclined to satisfy the curiosities of academics. Even we colonials, persistent though we are and mattering as little as we do, find ourselves all too frequently treated like Englishmen and kept at bay by those three magic words: "Official Secrets Act." Why not? Nothing in the British Constitution says that anyone outside of Whitehall needs an inside view. Quite the reverse. If academics know, then journalists might learn, and even the back-benchers might find out. God forbid!

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In Britain governing is *meant* to be a mystery. And so it is. Only in the memoirs of participants does one get glimpses, now and then, of operational reality. And even the most "indiscreet" of recent memoirs veil the essence of the modern system: the relations between ministers and civil servants in the making of a government decision.

For four years I have made a hobby of attempting to poke holes in Whitehall's defenses, and to take a closer look than either interviews or books afford. Partly this has been a "busman's holiday": having roamed one set of corridors, I find the temptation irresistible to look around another. Partly, though, I have been tempted by the thought that a comparison of set likenesses and differences would add a new dimension to President-watching.

To test that proposition, let me raise two simple points of difference between their system and ours.

First, we have counterparts for their top civil servants – but not in our own civil service.

Second, we have counterparts for their cabinet ministers – but not exclusively, or even mainly, in our cabinet.

If I state these two correctly, and I think I do, it follows that in our conventional comparisons we all too often have been victims of semantics. Accordingly, in our proposals for reform-by-analogy we all too often have confused function with form. I find no functions in the British system for which ours lacks at least nascent counterparts. But it is rare when institutions with the same names in both systems do the same work for precisely the same purpose. Thus, the most important things that I bring back from my excursioning in Whitehall are a question and caution. The question: what is our functional equivalent? The caution: never base analysis on nomenclature. These seem to be embarrassingly obvious. But it is astonishing how frequently they are ignored.

I

"Why are your officials so passionate?", I once was asked in England by a bright, young Treasury official just back from Washington. I inquired with whom he had been working there. His answer: "Your chaps at the Budget Bureau".

To an American, those "chaps" appear to be among the most *dis*passionate of Washingtonians. Indeed, the Budget staff traditionally prides itself on being cool, collected, and above the struggle, distant from emotions churning in the breasts of importunate agency officials. Yet to my English friend, "They took themselves so seriously . . . seemed to be crusaders for the policy positions they thought made sense . . . seemed to feel that it was up to them to save the day . . ." If this is how the Budget Bureau struck him, imagine how he would have felt about some circles in our Air Force, or the European Bureau

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of the State Department, or the Office of Economic Opportunity, or the Forest Service for that matter, or the Bureau of Reclamation, or the National Institutes of Health!

His inquiry suggests two further queries. First, out of what frame of reference was he asking? And second, is it sensible of him (and most of us) to talk of our own budgeteers as though they were his counterparts? These questions are pertinent because I think we are very far from candid with ourselves about the way we get *his* work done in *our* system.

This young man was a Principal-with-prospects at the Treasury. By definition, then, he was a man of the Administrative class, the elite corps of the British civil service. More important, he was also an apprentice-member of the favored few, the elite-of-the-elite, who climb the ladder *in* the Treasury. With skill and luck and approbation from his seniors he might someday rise to be a Mandarin. And meanwhile he would probably serve soon as personal assistant to a Cabinet minister. In short, he had the frame of reference which befits a man whose career ladder rises up the central pillar of the whole Whitehall establishment toward the heights where dwell the seniors of all seniors, moulders of ministers, heads of the civil service, knights in office, lords thereafter: the Permanent Secretaries of the Cabinet and the Treasury.

English civil servants of this sort, together with their foreign office counterparts, make up the inner core of "officials," civilian career men, whose senior members govern the United Kingdom in collaboration with their ministerial superiors, the front-bench politicians, leaders of the parliamentary party which commands a House majority for the time being. Theirs is an intimate collaboration, grounded in the interests and traditions of both sides. Indeed it binds them into a Society for Mutual Benefit: what they succeed in sharing with each other they need share with almost no one else, and governing in England is a virtual duopoly.

This is the product of a tacit treaty, an implicit bargain, expressed in self-restraints which are observed on either side. The senior civil servants neither stall nor buck decisions of the Government, once these have been taken in due form. "Due Form" means consultation with these senior civil servants, among other things; but having been consulted, these officials act without public complaint or private evasion, even though they may have fought what they are doing up to the last moment of decision. They also try to assure comparable discipline in lower official ranks, and to squeeze out the juniors who do not take kindly to it.

The senior politicians, for their part – with rare and transient exceptions – return this loyalty in full measure. The politicians rarely meddle with official recruitment or promotion: by and large, official-

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dom administers itself. The politicians preserve the anonymity of civil servants both in Parliament and in the press. Officials never testify on anything except "accounts," (an audit of expenditures) and nobody reveals their roles in shaping public policy. Ministers take all kudos for themselves – likewise the heat. They also take upon themselves protection for the status of officialdom in the society: honors fall like gentle rain at stated intervals. They even let career civil servants run their private offices, and treat their personal assistants of the moment (detailed from civil-service ranks) as confidentially as our department heads treat trusted aides imported from outside. More important, the politicians *lean* on their officials. They *expect* to be advised. Most important, they very often follow the advice that they receive.

This is an advantageous bargain for both sides. It relieves the politicians of a difficult and chancy search for "loyal" advisers and administrators. These are in place, ready to hand. And it relieves civil servants of concern for their security in terms both of profession and of person. No wonder our career men appear "passionate" to one of theirs; theirs have nothing at stake except policy!

So a Treasury-type has everything to gain by a dispassionate stance, and nothing to lose except arguments. To be sure, since he feels himself with reason to be one of an elite, ranking intellectually and morally with the best in Britain, this is no trifling loss. If parliamentary parties were less disciplined than they now are, or if he had back-benchers who identified with him, he could afford to carry arguments outside official channels, as his predecessors sometimes did a century ago – and as *military* officers still do, on occasion. But party discipline calls forth its counterpart in his own ranks. And party politicians on back-benches have no natural affinities with civil servants – quite the contrary. The civil servant really has no recourse but to lose his arguments with grace and wait in patience for another day, another set of ministers. After all, he stays, they go. And while he stays, he shares the fascinating game of power, stretching his own mind and talents in the service of a reasonably grateful country.

The Treasury-type is a disciplined man; but a man fulfilled, not frustrated. His discipline is the price he pays for power. Not every temperament can take it; if he rises in the Treasury, he probably can. But there is more to this than a cold compromise for power's sake. Those who rise and find fulfillment in their work do so in part because they are deliberately exposed at mid-career to the constraints, the miseries, the hazards which afflict the human beings who wield power on the political side. They know the lot of ministers from observation at first hand. Exposure makes for empathy and for perspective. It also makes for comfort with the civil servant's lot. Whitehall's elites gain all three while relatively young. It leaves them a bit weary with

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the weight of human folly, but it rids them of self-righteousness, the bane of *our* career men – particularly endemic, of course, among budgeteers.

A Treasury-type gains this exposure through that interesting device, the tour of duty in a minister's private office as his personal "dogsbody". The private secretary, so called, serves his master-of-the-moment as a confidential aide, minding his business, doing his chores, sharing his woes, offering a crying towel, bracing him for bad days in the House, briefing him for bad days in the office. Etcetera. Remarkably, by our standards, the civil service has preempted such assignments for its own. (Do not confuse a minister's private secretary with mere *parliamentary* private secretaries who are drawn from the back benches of the House.) Still more remarkably, the politicians feel themselves well served and rarely dream of looking elsewhere for the service. I know an instance where a minister confided in his private secretary a secret he told no one else save the Prime Minister, not even his Permanent Secretary, the career head-of-department, "lest it embarrass him to know." The Permanent Secretary was the private secretary's boss; yet the secret was kept as a matter of course. This, I am assured, is not untypical: "ministerial secrets" are all in the day's work for dogsbodies.

Accordingly, the one-time private secretary who has risen in due course to be permanent secretary of a department knows far more of what it feels like to perform as a politician than his opposite number, the department's minister, can ever hope to fathom in reverse. A William Armstrong, for example, now joint-head of Treasury, whose opposite number is the Chancellor of the Exchequer, spent years as private secretary to a previous Chancellor who was among the ablest men in the cabinets of his time. Draw the contrast with our own career civil servants.

Our budgeteers imagine that they are the nearest thing to Treasury civil servants. For this, no one can blame them. Much of our literature suggests that if they are not quite the same as yet, a little gimmickery could make them so. Many American political scientists have bemused themselves for years with plans to borrow nomenclature and procedures from the British side, on the unstated premise that function follows form. But it does not.

Functionally, our counterparts for British Treasury-types are *non*-career men holding jobs infused with presidential interest or concern. They are "in-and-outers" from the law firms, banking, business, academia, foundations, or occasionally journalism, or the entourages of successful Governors and Senators – along with up-and-outers (sometimes up-and-downers) who relinquish, or at least risk, civil service status in the process. Here is the elite-of-the-elite, the upper-crust of our "Administrative class." These are the men who

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serve alongside our equivalents for ministers, and who share in governing. One finds them in the White House and in the *appointive* jobs across the street at the Executive Office Building. One finds them also on the seventh floor of State, and on the third and fourth floors of the Pentagon; these places among others.

Let me take some names at random to suggest the types. First, the prototype of all: Averill Harriman. Second, a handful of the currently employed: David Bell, William Bundy, Wilbur Cohen, Harry McPherson, Paul Nitze. Third, a few recent "outers" almost certain to be back, somehow, sometime: McGeorge Bundy, Kermit Gordon, Theodore Sorensen. Fourth, a long-time "outer" who is never back but always in: Clark Clifford. Three of these men got their start as government career men, two as academics, two in banking, two in law, and one on Capitol Hill. The numbers are but accidents of random choice; the spread is meaningful.

The jobs done by such men as these have no precise equivalents in England; our machinery is too different. For example, McGeorge Bundy as the President's Assistant for National Security Affairs was something more than Principal Private Secretary to the Prime Minister (reserved for rising Treasury-types), a dogsbody-writ-large, and also something different from the Secretary of the Cabinet (top of the tree for them), a post "tradition" turns into an almost Constitutional position, certainly what we would call an "institutional" one. Yet the men in those positions see a Bundy as their sort of public servant. They are higher on the ladder than my young friend with the question; they do not take budgeteers to be their counterparts; they know a Senior Civil Servant when they see one.

Every detail of our practice is un-English, but the general outline fits. One of our men appears on television; another testifies against a bill; a third and fourth engage in semi-public argument; a fifth man feeds a press campaign to change the President's mind; a sixth disputes a cabinet member's views in open meeting; a seventh overturns an inter-agency agreement. So it goes, to the perpetual surprise (and sometimes envy?) of the disciplined duopolists in Britain. Yet by *our* lights, according to *our* standards, under our conditions, such activities may be as "disciplined" as theirs, and as responsive to political leadership. The ablest of our in-and-outers frequently display equivalent restraint and equal comprehension in the face of the dilemmas which confront our presidential counterparts of their Cabinet politicians.

The elite of our officialdom is not careerist men in the British sense (although, of course, our in-and-outers have careers); why should it be? Neither is it the President with his department heads. They, too, are in-and-outers. We forget that the duopoly which governs Britain is composed of *two* career systems, official and political. Most ministers who will take office through the next decade are

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on the scene and well identified in Westminster. The permanent secretaries who will serve with them are on the Whitehall ladders now; a mere outsider can spot some of them. Contrast our situation — even the directorships of old-line bureaus remain problematical. Who is to succeed J. Edgar Hoover?

We have only two sets of true career men in our system. One consists of Senators and Congressmen in relatively safe seats, waiting their turn for chairmanships. The other consists of military officers and civil employees who are essentially technicians manning every sort of specialty (including "management") in the Executive establishment. Between these two we leave a lot of room for in-and-outers. We are fortunate to do so. Nothing else could serve as well to keep the two apart. And *their* duopoly would be productive, not of governance, but of its feudal substitute, piecemeal administration. We can only hope to govern in our system by, and through, the Presidency. In-and-outers are a saving grace for Presidents.

II

Since 1959, English commentators frequently have wondered to each other if their government was being "presidentialized". In part, this stemmed from electoral considerations following the "personality contest" between Harold Macmillan and Hugh Gaitskell in that year's general election. In part, too, it stemmed from the impression left by Macmillan's active premiership — reenforced this past year by the sight of still another activist in office, Harold Wilson.

Despite their differences of style, personality, and party, both Macmillan and Wilson patently conceived the Cabinet Room in Downing Street to be the PM's office, not a mere board-room. Both evidently acted on the premise that the PM's personal judgment ought, if possible, to be decisive. Both reached out for the power of personal decision on the issues of the day. Macmillan did so through offstage maneuver, while avowing his fidelity to cabinet consensus. With perhaps a bit more candor, Wilson does the same. Hence discussion about trends toward "presidential" government.

Yet between these two Prime Ministers there was another for a year, Sir Alec Douglas-Home. And by no stretch of the imagination could his conduct in office have been characterized as presidential. On the contrary, by all accounts he was a classic "chairman of the board", who resolutely pushed impending issues *out* of Number 10, for initiative elsewhere, by others. He managed, it is said, to get a lot of gardening done while he resided there. I once asked a close observer what became of the initiatives, the steering, the maneuvering, which Home refused to take upon himself. He replied:

> "When ministers discovered that he really wouldn't do it, they began to huddle with each other, little groups of

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> major figures. You would get from them enough agreement or accommodation to produce the main lines of a government position, something they could try to steer through Cabinet. Or if you didn't get it, there was nothing to be done. That's how it began to work, outside of Number 10, around it."

That is how it would be working now, had there been but a slight shift in the popular vote of 1964.

The British system, then, has *not* been presidentialized, or not at least in operational terms. For, as we learned with Eisenhower, the initiatives a President must take to form "the main lines of a government position" cannot survive outside the White House precincts. Toss them out and either they bounce back or they wither away. A president may delegate to White House aides ("ok, S.A."), or to a Foster Dulles, but only as he demonstrates consistently, day-in-and-out, that they command his ear and hold his confidence. Let him take to his bed behind an oxygen tent and they can only go through motions. Eisenhower's White House was a far cry from 10 Downing Street in the regime of Douglas-Home. That remains the distance Britain's system has to travel toward a presidential status for prime ministers.

But even though the system did not make an activist of Douglas-Home, his predecessor and successor obviously relished the part. The system may not have required them to play it, but they did so, and the system bore the weight of their activity. In externals, Number 10 looks no more like the White House under Wilson than it did a year ago. But, in essence, Wilson comes as close to being "President" as the conventions of *his* system allow. He evidently knows it and likes it. So, I take it, did Macmillan.

How close can such men come? How nearly can they assert "presidential" leadership inside a cabinet system? Without endeavoring to answer in the abstract, let me record some impressions of concrete performances.

First, consider Britain's bid for Common Market membership four years ago, which presaged an enormous (if abortive) shift in public policy, to say nothing of Tory Party policy. By all accounts, this "turn to Europe" was Macmillan's own. The timing and the impetus were his, and I am told that his intention was to go whole-hog, both economically and politically. As such, this was among the great strategic choices in the peacetime politics of Britain. But it never was a "Government decision." For those, by British definition, come in Cabinet. Macmillan never put the issue there in candid terms. Instead he tried to sneak past opposition there – and on back-benches and in constituencies – by disguising his strategic choice as a commercial deal. The Cabinet dealt with issues of negotiation, ***en principe*** and later in detail, for making Britain part of Europe's

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economic union without giving up its Commonwealth connections (or farm subsidies). One minister explained to me:

> "Timing is everything. First we have to get into the Common Market as a matter of business, good for our economy. Then we can begin to look at the political side. . . . Appetites grow with eating. We couldn't hold the Cabinet, much less our back-benchers, if we put this forward now in broader terms. . . ."

Accordingly, the move toward Europe had to be played out in its ostensible terms, as a detailed negotiation of a commercial character. This took two years; and while the tactic served its purpose within Tory ranks, these were the years when France escaped from the Algerian war. By the time negotiations neared their end, Charles de Gaulle was riding high at home. Macmillan tiptoed past his own internal obstacles, but took so long about it that his path was blocked by an external one, the veto of de Gaulle.

Second, take the Nassau Pact of 1962, which calmed the Skybolt crisis between Washington and London even as it gave de Gaulle excuses for that veto. Macmillan was his own negotiator at the Nassau Conference. He decided on the spot to drop his claim for Skybolt missiles and to press the substitution of Polaris weaponry. He wrung what seemed to him an advantageous compromise along those lines from President Kennedy. Then and only then did he "submit" its terms to the full Cabinet for decision (by return cable), noting the concurrence of three potent ministers who had accompanied him: the Foreign, Commonwealth, and Defense Secretaries. With the President waiting, the Cabinet "decided" (unenthusiastically, by all accounts) to bless this *fait accompli*. What else was there to do? The answer, nothing – and no doubt Macmillan knew it.

Third, consider how the present Labour Government reversed its pre-election stand on Nassau's terms. Within six weeks of taking office, Wilson and his colleagues became champions of the Polaris program they had scorned in opposition. Their back-benchers wheeled around behind them almost to a man. It is no secret that the Prime Minister was the source of this reversal, also its tactician. So far as I can find, it was his own choice, his initiative, his management, from first to last. He got it done in quick-time, yet he did it by maneuvering on tiptoe like Macmillan in the case of the Common Market (with just a touch of the shot-gun, like Macmillan in the Nassau case). When Wilson let Polaris reach the Cabinet for "decision," leading ministers, both "right" and "left," already were committed individually. By that time also, Wilson had pre-tested back-bench sentiment; he had "prematurely" voiced to an acquiescent House what would become the rationale for Cabinet action: keeping on with weapons whose production had already passed a "point of no return."

Superficially, such instances as these seem strikingly unpresi-

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dential. In our accustomed vision, Presidents do not tiptoe around their Cabinets, they instruct, inform or ignore them. They do not engineer *faits accomplis* to force decisions from them, for the Cabinet does not make decisions; Presidents decide. A Kennedy after Birmingham, a Johnson after Selma, deciding on their civil rights bills, or a Johnson after Pleiku, ordering the bombers north, or Johnson last December, taking off our pressure for the multilateral force, or Kennedy confronting Moscow over Cuba with advisers all around him but decisions in his hands – what contrasts these suggest with the maneuvers of a Wilson or Macmillan!

The contrasts are but heightened by a glance at their work-forces: Presidents with twenty-odd high-powered personal assistants, and a thousand civil servants in their Executive Office – Prime Ministers with but four such assistants in their Private Office (three of them on detail from departments) and a handful more in Cabinet Office, which by definition is not "theirs" alone. Differences of work-place heighten the effect still more: 10 Downing Street is literally a house, comparing rather poorly with the White House before T.R.'s time. The modern White House is a palace, as Denis Brogan keeps reminding us, a physically-cramped version of the Hofburg, or the Tuileries.

Yet beneath these contrasts, despite them, belying them, Americans are bound to glimpse a long-familiar pattern in the conduct of an activist Prime Minister. It is the pattern of a President maneuvering around or through the power-men in his Administration *and* in Congress. Once this is seen, all contrasts become superficial. Underneath our images of Presidents-in-boots, astride decisions, are the half-observed realities of Presidents-in-sneakers, stirrups in hand, trying to induce particular department heads, or Congressmen or Senators, to climb aboard.

Anyone who has an independent power-base is likelier than not to get "ministerial" treatment from a President. Even his own appointees are to be wooed, not spurred, in the degree that they have their own attributes of power: expertise, or prestige, or a statute under foot. As Theodore Sorensen reported while he still was at the White House:

> "In choosing between conflicting advice, the President is also choosing between conflicting advisers. . . . He will be slow to overrule a cabinet officer whose pride or presige has been committed, not only to save the officer's personal prestige but to maintain his utility. . . . Whenever any President overrules any Secretary he runs the risk of that Secretary grumbling, privately if not publicly, to the Congress, or to the press (or to his diary), or dragging his feet on implementation, or, at the very worst, resigning with a blast at the President."

But it is men of Congress more than departmental men who

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regularly get from Pennsylvania Avenue the treatment given Cabinet ministers from Downing Street. Power in the Senate is particularly courted. A Lyndon Johnson (when he served there), or a Vandenberg in Truman's time, or nowadays an Anderson, a Russell, even a Mansfield – to say nothing of a Dirksen – are accorded many of the same attentions which a Wilson has to offer a George Brown.

The conventions of "bipartisanship" in foreign relations, established under Truman and sustained by Eisenhower, have been extended under Kennedy and Johnson to broad sectors of the home-front, civil rights especially. These never were so much a matter of engaging oppositionists in White House undertakings as of linking to the White House men from either party who had influence to spare. Mutuality of deference between Presidents and leaders of congessional opinion, rather than between the formal party leaderships, always has been the essence of "bipartisanship" in practice. And men who really lead opinion on the Hill gain privileged access to executive decisions as their customary share of "mutual deference." "Congress" may not participate in such decisions, but these men often do: witness Dirksen in the framing of our recent Civil Rights Acts, or a spectrum of Senators from Russell to Mansfield in the framing of particular approaches on Viet Nam. Eleven years ago, Eisenhower seems to have kept our armed forces out of Indo-China when a projected intervention at the time of Dien Bien Phu won no support from Senate influentials. Johnson now maneuvers to maintain support from "right" to "left" within their ranks.

If one seeks our counterparts for Wilson or Macmillan as Cabinet tacticians, one need look no further than Kennedy or Johnson maneuvering among the influentials both downtown *and* on the Hill (and in state capitals, or among steel companies and trade unions, for that matter). Macmillan's caution on the Common Market will suggest the torturous, slow course of JFK toward fundamental changes in our fiscal policy, which brought him to the point of trying for a tax cut only by the end of his third year. Macmillan's *fait accompli* on Polaris brings to mind the Southeast Asia Resolution Johnson got from Congress after there had been some shooting in the Tonkin Gulf – and all its predecessors back to 1955, when Eisenhower pioneered this technique for extracting a "blank check." Wilson's quiet, quick arrangement for the Labour Party to adopt Polaris has a lot in common with the Johnson *coup* a year ago on Federal aid to education, where a shift in rationale took all sorts of opponents off the hook.

British government may not be presidential, but our government is more prime-ministerial than we are inclined to think. Unhappily for clarity of thought, we too have something called a Cabinet. But that pallid institution is in no sense the equivalent of theirs. Our equivalent is rather an informal, shifting aggregation of key individuals –

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the influentials at both ends of Pennsylvania Avenue. Some of them may sit in what we call the Cabinet as department heads; others sit in back rows there, as senior White House aides; still others have no place there. Collectively these men share no responsibility nor any meeting ground. Individually, however, each is linked to all the others through the person of the President (supported by his telephone). And all to some degree are serviced – also monitored – by one group or another on the White House staff. The former "Bundy Office," or the "Sorensen Shop" which one might best describe now as the Moyers "sphere of influence," together with the staff of legislative liasoners captained until lately by Lawrence O'Brien – these groups, although not tightly interlocked, provide a common reference-point for influentials everywhere: "This is the White House calling. . . ." While we lack an institutionalized Cabinet along British lines, we are evolving an equivalent of Cabinet Office. The O'Brien operation was its newest element, with no precursors worthy of the name in any regime earlier than Eisenhower's. Whether it survives, and how and why, without O'Brien become questions of the day for Presidency-watchers.

The functional equivalence between a British Cabinet and our set of influentials – whether Secretaries, Senators, White House staffers, Congressmen, or others – is rendered plain by noting that, for most intents and purposes, their Cabinet members do the work of our congressional committees, our floor leaderships, and our front-offices downtown, all combined. The combination makes for superficial smoothness; Whitehall seems a quiet place. But once again, appearances deceive. Beneath the surface, this combine called "Cabinet" wrestles with divergencies of interest, of perspective, of procedure, of personality, much like those we are used to witnessing above ground in the dealings of our separated institutions. Not only is the hidden struggle reminiscent of our open one, but also the results are often similar: "bold, new ventures" actually undertaken are often few and far between. Whitehall dispenses with the grunts and groans of Washington, but both can labor mightily to bring forth mice.

It is unfashionable just now to speak of "stalemate" or of "deadlock" in our government, although these terms were all the rage two years ago and will be so again, no doubt, whenever Johnson's coattails shrink. But British government is no less prone to deadlock than our own. Indeed I am inclined to think their tendencies in that direction more pronounced than ours. A keen observer of their system, veteran of some seven years at Cabinet meetings, put it to me in these terms:

> "The obverse of our show of monolithic unity behind a Government position, when we have one, is slowness, ponderousness, deviousness, in approaching a position, getting it taken, getting a 'sense of the meeting.' Noth-

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> ing in our system is harder to do, especially if press leaks are at risk. You Americans don't seem to understand that. . . ."

In the Common Market case, to cite but one example, the three months from October to December, 1962 were taken up at Brussels, where negotiations centered, by a virtual filibuster from the British delegation. This drove some of the Europeans wild and had them muttering about "perfidious Albion." But London's delegates were not engaged in tactical maneuvering at Brussels. All they were doing there was to buy time for tactical maneuvering back home, around the cabinet table. The three months were required to induce two senior ministers to swallow agricultural concessions every student of the subject knew their government would have to make. But Britain could not move until those influential "Members of the Government" had choked them down. The time-lag seemed enormous from the vantage point of Brussels. Significantly, it seemed short indeed to Londoners. By Whitehall standards this was rapid motion.

One of the checks-and-balances in Britain's system lies between the PM and his colleagues as a group. This is the check that operated here. A sensible Prime Minister is scrupulous about the forms of collective action: overreaching risks rejection; a show of arbitrariness risks collegial reaction; if they should band together his associates could pull him down. Accordingly, the man who lives at Number 10 does well to avoid policy departures like the plague, unless, until, and if, he sees a reasonable prospect for obtaining that "sense of the meeting." He is not without resources to induce the prospect, and he is at liberty to ride events which suit his causes. But these things take time – and timing. A power-wise Prime Minister adjusts his pace accordingly. So Macmillan did in 1962.

Ministerial prerogatives are not the only source of stalemate or slow motion in this system. If members of a Cabinet were not also heads of great departments, then the leader of their party in the Commons and the country might be less inclined to honor their pretensions in the Government. A second, reenforcing check-and-balance of the system lies between him and the senior civil servants. To quote again, from the same source:

> "The PM has it easier with ministers than with the civil servants. The ranks of civil servants do not work for *him*. They have to be brought along. They are loyal to a 'Government Decision' but that takes the form of action in Cabinet, where the great machines are represented by their ministers."

The civil servants can be his allies, of course, if their perceptions of the public interest square with his; then all he needs to do is to bring ministers along. Something of this sort seems to have been a factor in the Labour Government's acceptance of Polaris: Foreign

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Office and Defense officials urged their masters on; Treasury officials remained neutral. The PM who first manages to tie the civil servants tighter to his office than to their own ministries will presidentialize the British system beyond anything our system knows. But that day is not yet. It may never come.

So a British Premier facing Cabinet is in somewhat the position of our President confronting the Executive Departments and Congress combined. Our man, compared to theirs, is freer to take initiatives and to announce them *in advance* of acquiescence from all sides. With us, indeed, initiatives in public are a step toward obtaining acquiescence, or at least toward wearing down the opposition. It is different in Downing Street. With us, also, the diplomatic and defense spheres yield our man authority for binding judgments on behalf of the whole government. Although he rarely gets unquestioning obedience and often pays a price, his personal choices are authoritative, for he himself is heir to royal prerogatives. In Britain these adhere to Cabinet members as a group, not to the Prime Minister alone. True, he can take over diplomacy, as Neville Chamberlain did so disastrously, and others since, or he can even run a war like Winston Churchill. But Chamberlain had to change Foreign Secretaries in the process, and Churchill took precautions, making himself Minister of Defense.

Still, despite all differences, a President, like a Prime Minister, lives daily under the constraint that he must bring along *his* "colleagues" and get action from *their* liege-men at both ends of the Avenue. A sensible Prime Minister is always counting noses in Cabinet. A sensible President is always checking off his list of "influentials." The PM is not yet a President. The President, however, is a sort of super-Prime Minister. This is what comes of comparative inquiry.

III

For over half a century, a great number of studious Americans have sought to fasten on our system, frankly imitating Britain, both a senior civil service drawn from career ranks and a Cabinet drawn from Congress. Meanwhile, without paying much attention to such formulations, our governmental practice has been building *ad hoc* counterparts. I have given two examples and could offer many more, but I hope these suffice to make the point.

The in-and-outers on whom we depend to do at presidential level what the Treasury-types of Whitehall do at Cabinet level deserve much more notice than they have so far received. They are a political phenomenon to study. They also are a political resource to nurture. Their care-and-feeding should concern our schools of public service not less but rather more than that of civil servants who remain in

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career ranks. (At least this is a proposition we shall test at Harvard with the new resources we are to obtain in memory of that notable recruiter, John F. Kennedy.)

As for our Cabinet-substitute, the shifting set of influentials, few things are more interesting in our system than the still inconclusive signs that we *may* now be on the verge of a new institutional breakthrough, a pragmatic innovation in our Constitution which might match those of the Roosevelt-Truman years. For White House staffing in the years of Kennedy and Johnson, combined with Johnson's tendency to use some senior Senators as though they were Executive advisers – these together, if sustained, could lay the basis for new patterns of relationship we someday would discover had become an institution. It is, of course, too soon to tell. Truman, in his early years, also leaned a lot on certain Senators. Eisenhower's staffing innovations mostly were a flash-in-the-pan. Influentials on the Hill are not yet tied into the presidential circle with anything like the firmness or the mutual satisfaction (relatively speaking) of the ties which bind their counterparts downtown. Perhaps they never will be. But if they ever are to be, the Johnson years appear a likely time.

These among others are the thoughts a look at Whitehall can suggest to a watcher of Washington – provided one is careful to distinguish form from function.

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SHADOW AND SUBSTANCE IN POLITICS (2)

Ideas into programs

ADAM YARMOLINSKY

We were informed by the late T. S. Eliot that, "Between the idea/ And the reality/ Between the motion/ And the act/ Falls the shadow." It is not too much to say that the principal business of government, at least in the Executive Branch, is to grapple with the shadow – to make it possible for action to follow thought in orderly sequence.

Of course, the problem of moving from ideas to achievement is not unique to government (or even to the world of affairs). It was one of the great French post-impressionist painters who observed to a poet friend, "I have the most wonderful ideas for poems," and was properly rebuked by the reply, "You don't write poems with ideas, you write them with words." But what is true is that government, and particularly big government, provides an environment particularly hostile to the cultivation of new ideas. This is not because government officials are more likely than most men to be sterile, or even stodgy. It is rather because the circumstances in which they live and work are extraordinarily unfriendly to innovation.

To begin with, our big government – the federal government – is bigger than any other kind of organization in the world.

Now, big government is not just little government writ large. You cannot build a large organization simply by increasing the dimensions of a small organization, anymore than you can build a

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mansion by taking the blueprints for a cottage and multiplying every measurement. There are a number of break-points along the growth curve, and at each break-point organization becomes significantly more complex and communication becomes significantly more difficult.

One of the hardest lessons for a newcomer to the governmental bureaucracy to learn in Washington is that a communication from, say, the Secretary of State to the Secretary of Defense is nothing like a letter from one individual to another. It is rather an expression of the shared views of a large group of people in one department, which it is expected will be pondered by another large group of people in the other department for days and, I am afraid in some cases, weeks – all this before it reaches its ultimate addressee, with a reply prepared for his signature. In fact, if the person who happens to be the Secretary of State wants to address a personal communication to the Secretary of Defense, he has to resort to extraordinary means to do so.

But not all of the complexity of government is a consequence of its size, by any means. The tasks of government today are themselves more complex, I submit, than those of any private undertaking. Nowhere can a man more easily be overwhelmed by the flow of paper than in government, and nowhere can one experience a greater delay, in distance and time, between initiating an action and seeing its concrete results. I am prepared to concede without argument that writing a serious book or developing a mathematical theorem or composing a sonata is harder work than any undertaken by a civil servant or a politician. But in a sense these are also simpler tasks – more unified, involving fewer discontinuities. People in government are constantly moving back and forth, not only between ideas and events, but between significant events and trivial ones. In my own experience, I have been called out of a meeting on U. S. policy in outer space to discuss an urgent, if perhaps not equally important, question of the allocation of inner space within the Pentagon; and within one half-hour I have had to discuss the assignment of astronauts and automobile drivers.

It is these complexities and these distractions which produce that figure of fun, the greatest enemy of new ideas, without whom no new idea in government can be put into action, the government bureaucrat.

When I speak of the government bureaucrat, I mean the person whose career is contained within the institution he serves, whether it is the civil service, the military service, or one of the quasi-military bodies like the Public Health Service or the Foreign Service. Because his career is bounded by the institution of which he is a part, and because of the size and complexity of that institution, he tends to

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see the institution as a sharply defined structure against a dimly perceived background of the world outside. Happenings in the outside world are not as clearly noticed, and, accordingly, their effects on the inside world are less likely to be anticipated or even appreciated when they occur. The bureaucrat is shaped by the immediate demands of his job, and his job is primarily to see that things get done, within the existing institutional framework. Significantly, the military refer to the officer in charge of a particular project as "the action officer," and the question, "Who is responsible for a particular project?" is phrased as, "Who has the action?" Because the primary responsibility of the bureaucrat is not to figure out the best way to do something, but to get it done.

If this definition appears to be inconsistent with the facts of bureaucratic delays and bureaucratic resistances, I believe the inconsistency is only superficial. The bureaucrat's constant concern is to keep the system moving, and he, more than anyone else, is aware of its enormous inertia, and the difficulty of changing course or starting up again if it is stopped even momentarily. Bureaucrats realize better than anyone else how difficult it is to get *anything* done in government, and they adopt the devices of routinizing and systematizing – and bureaucratizing, if you will – in order that certain things, at least, will be done. Planners in the three military departments are naturally resistant to coordination, not because they really expect that the Army, Navy and Air Force would fight separate wars if it came to it, but rather because the difficulty of turning plans into programs is great enough within each military service. It is their very commitment to getting things done that makes them resist new and perhaps better ways of doing things.

The good bureaucrat is an expert at something called completed staff work. Staff work is what a bureaucrat does with a piece of paper before he sends it on to his superior, whom he usually refers to as "the decision-maker". Completed staff work means that before the paper goes to his superior, it has attached to it a memorandum that describes all the alternative courses of action that can be taken with the paper – approve, disapprove, modify, send back for further information; indicates the arguments for each course of action; explains who else has been consulted, and what each one thinks; recommends one alternative course of action; and finally attaches a piece of paper for the decision-maker to sign, which will put that course of action into effect. Many frustrated decision-makers spend their entire official careers reacting to other people's completed staff work. But what should not be overlooked is that the purpose and end of completed staff work is to produce action, and it is by focusing on that end that the bureaucrat keeps the enterprise moving ahead. The effect of completed staff work, like the effect of the presence of

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bureaucrats in the system, is to encourage attention to business at hand. It is also frequently a useful antidote to sloppy thinking. But it emphatically does not encourage the production of new ideas, or the suspension of judgment until new ideas can sink in.

Where do ideas come from?

Still, despite all of the resistances in the system, new ideas do appear, and some of them develop into new operating programs. Where do these ideas come from, and what determines whether they jump the gap or just sputter out? How are they changed as they emerge into the outside world? And what can we do to make the government more hospitable to the best of the new ideas?

In examining sources of new ideas in government, one observes that the theory of simultaneous – and seemingly spontaneous – invention applies here as elsewhere. The successful new ideas seem to crop up all at once from a number of sources; in fact, people have almost come to blows in Washington about who invented poverty. No one can say today where the ideas for the test ban treaty, the trade bill, or the tax cut first originated. And there seems also to be some current dispute as to which party first came up with the idea of returning Federal tax money to the States.

But ideas do have to come from somewhere, and the greatest source of important and successful ideas is probably still in the academic community. The Poverty Program owes a great deal to Robert Lampman of the University of Wisconsin, and he in turn to the whole University of Wisconsin school of economists. The Department of Defense has been living off the intellectual capital of the RAND Corporation and its scholars for the last five years. Recent revisions in the conflict of interest laws have drawn heavily on the work of Dean Manning of the Stanford Law School and of Dean Bernstein of the Woodrow Wilson School at Princeton.

It is interesting to note, also, that in each of these examples there has been a productive interaction between the academic community proper and the worlds of the private research organizations, foundations, and professional associations, before the ideas under discussion ripened for consideration as government programs. The concept of the community action program as a central element in the anti-poverty program – a concerted, coordinated attack on all the tangled roots of poverty in a particular community – was the result of academic research and experimental development fostered by Paul Ylvisaker's Gray Areas Program at the Ford Foundation. The RAND Corporation provided men like Albert Wohlstetter, Herman Kahn, Henry Rowen and Alain Enthoven with a research base that also offered them the opportunity to explore practical problems under RAND's Air Force contract. And the Manning-Bernstein

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study of conflict of interest was conducted under the auspices of a committee of the Association of the Bar of the City of New York.

On the other hand, relatively few ideas seem to come from within government itself. The contribution of government people is likely to be more in detail and in implementation, matters I shall come to shortly. The so-called policy planning staffs of departments and agencies usually serve merely as a conduit for ideas from outside. To be sure, this is not always the case. The proposal for a multilateral force, for example, seems to have been conceived within the bosom of the State Department's Policy Planning Council, and nurtured there with the assistance of the Council's then chairman, Robert Bowie, who later returned to academic life, retaining close ties with the Department, however, even through changes in the Administration. And the fallout shelter program proposed by President Kennedy was developed by Carl Kaysen, now Associate Dean of the Littauer School at Harvard, when Kaysen was serving as a National Security Council staff member.

Lastly, successful ideas come occasionally – but too infrequently – from individuals in private life. Burke Marshall's proposal for the institution of voting registrars in civil rights voting cases is an example of an idea that quickly struck fire, and in part led to Marshall's later selection as Assistant Attorney General in charge of the Civil Rights Division of the Department of Justice.

What then does it take for an idea to be adopted by decision-makers in government, and to become a program? There is an essential difference between an idea or a proposal, on the one hand, and a program on the other. A program has a dollar sign attached to it, and the dollar sign is placed there by a person who is responsible also for competing programs, each with its own dollar sign attached. Economists distinguish between an economic good and a free good. An idea is a free good; a program is an economic good.

The preconditions of a program

All programs may not succeed. Some will go down to legislative defeat, and others may be abandoned even before they reach the legislative threshhold. But once they have been "priced out" in competition with other programs, they have left never-never land and entered the real world. When Secretary McNamara began insisting on cost benefit studies in connection with new weapons systems, he was not confusing the processes of military analysis with the processes of bookkeeping; rather, he was requiring than an essential element of every program decision be made articulate. He wanted to know how the particular proposed solution to a military problem compared with other solutions, in its demand on the available resources.

Given the pressure of competing ideas on available resources,

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the first pre-condition for a new program must be the existence of a genuine national need – and it must be a deep-seated and pressing need. While the immediate occasion for the introduction of a program may be the decision-maker's response to a particular pressure group, or even his desire to find a positive theme for the work of his agency, when it comes to a decision whether to proceed, he will look for the national need before he moves – or somebody may be looking for a new decision-maker. The choice of a particular solution can be a good deal more debatable than the existence of the underlying problem, and that debate may itself conceal the fundamental consensus on the need. (Few, if any, of those who oppose the Multilateral Force would deny the need to find new answers to the question of NATO nuclear policy.) But once the President had called the country's attention to the problem of poverty in the United States, even the strictly partisan opposition to the anti-poverty program focused on the means, rather than the goal, and ended up offering an alternative bill.

If the first requirement for transformation of an idea into a program is the existence of a deeply felt – even if inadequately perceived – national need, the second requirement is that the idea can in fact be made flesh; that is to say, that it can be transformed into a program that would produce visible results *within a limited period of time.*

Again, an unhappy case in point is the proposed fallout shelter program. Here the events of the summer of 1961, together with some remarks of President Kennedy, unfortunately amplified by the mass media, produced an immediate short-term concern almost amounting to hysteria, which a proposed middle or long-term program of incentives for shelter construction could not begin to meet. The Administration's attempt to fill the gap by outlining a self-help program, or what to do until the community shelter comes, was equally unsuccessful, apparently making greater demands on American self-reliance than the national psychology warranted.

A similar danger that the near-term results will not be, or appear to be, adequate to the need, looms for the President's Poverty Program. The stated purpose of the program is to help the poor pull themselves out of poverty more rapidly. We have reduced the size of the poverty class in the United States from Roosevelt's one-third of the nation to one-fifth – using the rough yardstick of the Council of Economic Advisers. But the rate of decrease has fallen off in recent years, and in some groups of the population – households headed by a woman, for example – it has stabilized, and the proportion of such families below the poverty line has actually increased significantly. The Poverty Program should increase the rate at which families and individuals are emerging from poverty – but how can one show visible results from year to year, since the Act contains only a

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one-year authorization? This question haunts all those engaged in the war on poverty.

As it happens, the Poverty Program to some extent did try to protect itself on this flank. There was a fundamental strategic decision to be made in attacking the problem of poverty. People are poor because they lack the capacity or the opportunity to perform services that society values sufficiently to reward them with a decent living. In attacking the overall problem, we can begin either with the lack of opportunity or with the lack of capacity; that is to say, we can begin by preparing jobs for people, or by preparing people for jobs. A decision was made to begin by concentrating on the latter, in part because the tax cut already represented the first step towards decreasing unemployment generally, but also because the process of preparing people to get and hold decent jobs itself created an extra margin of time to find the job opportunities for the people. No one could reasonably expect instant results; and this fact made the program more workable.

It would be a gross misreading to regard this process of decision-making as "political" in any pejorative sense. Rather, the search for results here as elsewhere is part of the calculus of cost and benefit in a world of limited resources – including the resource of time. Clearly, the first responsibility of the administrator of a new program is to keep it alive. While he must be prepared to let his program go down to a martyr's death, if necessary, he must also realize that a useful life is generally to be preferred to early martyrdom. Moreover, emphasis on early and visible results is not only politically expedient; it also provides a useful discipline for the administrator, by requiring him, in effect, to be prepared to pay an interest penalty for delayed returns on the original investment.

Thinking programmatically

The shape of a program, then, is affected by its relation to the visible results it is expected to produce. Another pressure that affects the shape of the program is the desire to appeal to a number of constituencies in order to maximize public and congressional support. Mishandled, such an effort may only result in each constituency feeling it has been short-changed, or the program itself may be destroyed because resources are allocated too thinly to achieve a critical mass in any area. But the pressure is there, and the program planner ignores it at his peril. Here the program planner's art consists, not in dividing the available resources into smaller shares, but rather in finding ways of allocating resources that genuinely serve more than one purpose. In diversifying program appeal, he may in fact create a new constituency. It seems unlikely, for example, that the Indian Bureau could find a sufficiently powerful constituency to set up an active program

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of Job Corps camps on Indian Reservations. But by incorporating these camps into the much larger Job Corps program, a new constituency is identified, one concerned with more rapid elimination of poverty and the building of the Great Society in the United States. Similarly, the Job Corps Conservation Camps conserve human values by helping prepare the enrollees for permanent jobs; at the same time, they conserve natural resources through the work the enrollees are doing on public lands of the United States – a fact that did not escape the attention of the important conservation lobby while the bill was before the Congress.

The primary effects, then, of political constraints on program planning are rather like the effects of fiscal or economic constraints. They tend to require more economic use of the resources available.

Program planners like to talk about the need to think programmatically, and they tend to measure the value of an innovator by his ability to do so. In a sense they are wrong, because the idea must precede the program, and without new ideas there will be no new programs. But they are right too, in the sense that before an idea can be used, *someone* must think about it programmatically, determining the resources needed to accomplish the objective and measuring the value of the resources against the results. Programmatic thinking is like completed staff work. It must be watched carefully to see that it doesn't eliminate remote but striking possibilities, yet it does serve to focus attention unrelentingly on what must happen in the here and now.

Having said this, one is left with the question: what can we do to improve the climate for new ideas in government so that the shadow falls less heavily between the idea and the action?

Here I have three suggestions, or groups of suggestions.

First, we need to make it easier for people to move back and forth between the world of ideas and the world of action. In my own experience, the best program planners, the people best able to bridge the gap, are the in-and-outers in government, the people who come to government from a university or a foundation or a law office or an industrial concern, for a tour of three or four years, and then go off to a university or a foundation or a law office or an industrial concern, returning after a period for a second or a third or a fourth tour in government – people whose allegiance is not primarily to an institution, but to a discipline, an area of intellectual concern. These people are important both as program planners and as sources of the original ideas that must precede programs. If we continue to draw people away from the universities and hold them in government for too long, we are draining their creative potential, as we drain their sense of the realities of politics if we keep them too long away from responsibility for action.

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There are some practical steps that need to be taken in this direction. One of the most important was the Executive Pay Act last year, and the provisions of that act will undoubtedly have to be supplemented in years to come so that government pay scales do not again fall behind those of the universities and the professions. Another step would be to devise a system for transfer of pension rights and other fringe benefits without any penalty to the transferee. Delayed vesting of pension rights, particularly in industrial concerns, is one of the most troublesome remaining vestiges of involuntary servitude since the ratification of the Thirteenth Amendment. I am inclined to give less weight to schemes for broadening the horizons of career public servants, whom I have already described, I hope without giving offense, as bureaucrats. In the nature of our system, I do not believe that they can generally broaden their horizons to the point where they can perform the essential mediating function between the world of action and the world of ideas, for which we must depend primarily on the in-and-outers. On the other hand, I am not suggesting that programs for advanced study for civil servants are of little value: policy is made interstitially as well as structurally, and if career public servants are not likely to build new structures, they are quite capable of tearing them down.

Lastly, there are a number of institutional arrangements that expose young people to government service without committing them to a government career or to a particular specialty. Arrangements like the Defense Department's Management Intern Program, and the Justice Department's Honor Law Graduates Program, and the new White House Fellows Program, offer exciting possibilities to produce more in-and-outers and broader-gauged career people.

Laboratories and start-up costs

My second group of suggestions attempts to deal with the problems of size and complexity in government as obstacles to new ideas. We ought to expand the area of governmental and public affairs activity in which new ideas can be tried out as limited-scale programs. As Justice Brandeis observed: "It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country". One hears too much nowadays about state government as an obstacle to progress in new programs; we tend to lose sight of some of the current and valuable laboratory experiments like Terry Sanford's Governor's School, for example, in North Carolina; or the new Youth Opportunity Camps in Indiana. Cities like New Haven and Boston and East St. Louis have already led the way with community action programs of the kind that are now receiving substantial support from the Federal Government.

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And city and state governments can enter into partnerships with private resources – as in the Ford Foundation's Gray Areas Program – perhaps more easily than the Federal Government can. What I am suggesting is that we need to think of state and local government more explicitly as laboratories for new program ideas, which if successful can then be tried on at the Federal level. If we are looking for creative Federalism, here is a chance to create it.

The Federal Government may also delegate operating programs to private institutions. The Job Corps, for example, contracts with universities and even (confounding the proponents of the conventional wisdom) with private companies to operate training centers. By making the generators of new ideas responsible for trying them out, we may be able to build additional bridges between ideas and programs.

My third suggestion is a painfully practical one. After an idea has been accepted for adoption within government as an operating program, there is still a good deal to be done in order to put it into programmatic form. All of its elements must be developed and "costed out" in some detail, legislation must be drawn up, and at least some thought must be given to staffing. All of these activities cost money. They don't cost a lot of money, but the kind of talent that is required to do the job is not freely available. If the new program is being developed within the bosom of an existing department or agency, there may be sufficient funds available to cover it. But if it is an independent enterprise, the very limited discretionary funds at the disposal of the President simply will not stretch that far. The Peace Corps was fortunate in its planning stages that money was available from foreign aid appropriations. The domestic Peace Corps proposal had a much more difficult time, and that planning effort was in fact the target of legislative riders preventing departments and agencies from lending people or services. The Anti-Poverty Task Force struggled along with something like $30,000 from the President's discretionary funds, and with volunteers recruited from private life or lent by their companies or unions.

This kind of sacrifice should not be necessary, and in any event it does not make for efficiency. But I confess to having no ready prescription for this problem. Congress is naturally reluctant to appropriate funds for enterprises on which it has not yet passed. On the other hand, Congress might well be receptive to new ideas on how to translate new ideas into programs.

In short, and in sum: we not only need new ideas, we also need new ideas about how to turn new ideas into programs.

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Suburbia and the American dream

BENNETT M. BERGER

Americans have never been other than ambivalent in their commitment to cultural variety, as against their longing for cultural uniformity. Today, this ambivalence is becoming a central concern of public policy. For, as urban planning becomes an increasingly visible and legitimate part of the activity of the public sector, its power will grow to support or to undermine cultural diversity in the traditional seat of that diversity – the cities. Like the myth of a homogeneous "suburbia," which for a long time obscured, and to some extent still obscures, the actual variety of suburban life, complacence about the cultural diversity of cities may blind us to the conditions which sustain it. My aim in this essay is to take what I and others have learned about the variety of suburban styles of life, and to relate this knowledge, first to some of the more pervasive pluralisms of American culture, and then to a few of the problems of planning for urban diversity.

The persistence of the myth of suburbia

Some years back, I undertook a study (reported in *Working-Class Suburb*, Univ. of Calif. Press, 1960) in order to observe the transformation of a group of automobile assembly line workers into the "suburbanites" who had become stock figures in American popular culture in the 1950's through the satirical and other efforts of a variety of pop-

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ular magazines. It seemed to me that, having found a working class population more than two years settled in a new suburb, I was provided with an almost natural experimental setting in which to document the processes through which "suburbia" exercised its profound and diffuse influence in transforming a group of poorly educated factory workers into those model middle-class Americans obsessed with the problems of crab-grass and "conformity."

Well, it is now a matter of public record that my basic assumption was wrong. As the interview evidence piled up, it became clearer and clearer that the lives of the suburbanites I was studying had not been profoundly affected in any statistically identifiable or sociologically interesting way. They were still overwhelmingly Democrats; they attended church as infrequently as they ever did; like most working class people, their informal contacts were limited largely to kin; they neither gave nor went to parties; on the whole they had no great hopes of getting ahead in their jobs; and instead of a transient psychology, most of them harbored a view of their new suburban homes as paradise permanently gained.

But (appropriately enough for a Ph.D. candidate) I was cautious in the general inferences I drew from that study. It was, after all, based only on a small sample, of one suburb, of one metropolitan area, in one region, and it suffered from all of the methodological limitations inherent in small case studies. None of my findings gave me any reason to doubt the truth of what William H. Whyte, for example, had said of his organization men; but it also seemed to me that there was little reason *not* to believe that my findings in San Jose would be repeatedly confirmed in many of the less expensive suburbs around the country whose houses were priced well within the means of unionized workers in heavy industry, and of lower white collar employees as well. I did, in short, question the right of others to generalize freely about suburbia on the basis of very few studies of selected suburbs which happened to be homogeneously middle or upper middle class in character – especially when it seemed apparent that suburban housing was increasingly available to all but the lowest income levels and status groups.

The considerable bulk of research that has been done on suburbs in the years since I did my work has given me no reason to alter the conclusions I drew then. Indeed, none of this research can be expected to give much comfort to those who find it convenient to believe that a suburb exercises some mysterious power over its residents, transforming them into replicas of Whyte's practitioners of "The Outgoing Life." There seems to be increasing consensus among students of suburbia that suburban development is simply the latest phase of a process of urban growth that has been going on for a long time, that the cultural character of suburbs varies widely in terms of the social

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make-up of its residents, and of the personal and group dispositions that led them to move to suburbs in the first place; that the variety of physical and demographic differences between cities and suburbs (and there *are* some) bears little significance for the way of life of their inhabitants, and that some of these differences, although statistically accurate, are sociologically spurious, since the appropriate comparisons are not between residential suburbs and cities as wholes, but between suburbs and urban residential neighborhoods. In general, the reported changes in the lives of suburbanites were not *caused* by the move to suburbia, but were reasons for moving there in the first place. In suburbs, as in city apartments, social class, the age-composition of residents, the age of the neighborhood, etc., are much more profound predictors of the style of life than is residential location with respect to the city limits. Analysis of national samples has provided confirmation neither of a trend to Republicanism in politics nor a return to religion. Suburbs, in short, seem – as Reissman and Ktsanes have characterized them – to be "new homes for old values."

It appears, then, that there are no grounds for believing that suburbia has created a distinctive style of life or a new social character for Americans. Yet the myth of suburbia persists, as is evident from the fact that it is still eminently discussable over the whole range of our cultural media, from comic books to learned journals. One should not be surprised at this, for myths are seldom dispelled by research; they have going for them something considerably more powerful than mere evidence. And though nothing I say here can change this fact, it may give us some comfort to understand the sources of the myth, the functions it performs for the groups by whom it is sustained, and the nature of its appeal to America's image of itself.

In my book, and then, again, later in an article, I undertook a functional explanation of the myth of suburbia. I pointed first to the fact that suburbs were rich with ready made visible symbols: patios and barbecues, lawnmowers and tricycles, shopping centers, station wagons, and so on, and that such symbols were readily organizable into an image of a way of life that could be marketed to the non-suburban public. I also pointed out that this marketing was facilitated by the odd fact that the myth of suburbia conveniently suited the ideological purposes of several influential groups who market social and political opinion – odd because these groups could usually be found disagreeing with each other, not only about matters of opinion, but about matters of fact as well. Realtor-chamber-of-commerce interests and the range of opinion represented by the Luce magazines could use the myth of suburbia to affirm the American Way of Life; city planners, architects, urban design people and so on could use the myth of suburbia to warn that those agglomerations of standardized, vulgarized, mass-produced cheerfulness which masqueraded as homes would be

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the slums of tomorrow. Liberal and left-wing culture-critics could (and did) use the myth of suburbia to launch an attack on complacency, conformity, and mass culture, and found in this myth an up-to-date polemical vocabulary with which to rebuke the whole slick tenor of American life: what used to be disdained as "bourgeois" was now simply designated as "suburban." In short, the *descriptive* accuracy of the myth of suburbia went largely unchallenged because it suited the *prescriptive* desires of such a wide variety of opinion, from the yea-sayers of the right to the agonizers of the center to the nay-sayers of the left.

But though I still think this analysis of the myth makes good sense, I think too that there is something more – something, if I may be permitted to say so, deeper, profounder, and which I was only dimly aware of then. I think now that the myth can be understood also as our society's most recent attempt to come to terms with the melting pot problem, a problem that goes straight to the heart of American ambivalence about cultural pluralism.

Cultural pluralism and the melting pot

America has never really come to terms with the legend of the melting pot. That legend, if I may quote the windy text of its original source, saw America as the place where "Celt and Latin, Slav and Teuton, Greek and Syrian, Black and Yellow, Jew and Gentile, the palm and the pine, the pole and the equator, the crescent and the cross" would together build "the Republic of Man and the Kingdom of God." Despite the hope that a unified American culture might emerge from the seething cauldron, it didn't happen; instead, the formation of ethnically homogeneous communities – ghettoes – helped the immigrants preserve large segments of their cultures, and the tendency to endogamy helped them preserve it beyond the first generation. But in spite of the evident facts of our cultural pluralism (by which I mean the persisting correlation of significant differences in values and behavior with ethnic, regional, and social class differences), attempts are continually made to create an image of *the* typical or representative or genuine American and his community. These attempts have usually succeeded only in creating stereotypes – most familiarly, perhaps, a caricature of one or another variety of Our Town: white, anglo-saxon, Protestant, and middle class. *Saturday Evening Post* covers, white picket fences, colonial houses, maple hutches and the like have historically played an important role in such attempts. *The myth of suburbia is the latest attempt to render America in this homogeneous manner,* to see in the highly visible and proliferating suburban developments a new melting pot which would receive the diverse elements of a new generation from a society fragmented by class, region, religion, and ethnicity, and from them create

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the American style of life. Suburbia as America is no more false a picture, probably, than Babbitt or Our Town as America; but it fails as a melting pot for the same reason that the original melting pot idea failed: like many other urban neighborhoods, specific suburbs developed a tendency to homogeneity, almost always in terms of social class and very often in terms of ethnicity.

The myth of American cultural homogeneity and the stubborn fact of heterogeneity reflect a persistent ambivalence in American society regarding cultural unity and diversity, between the melting pot idea and the pluralist idea. During and after the period of rapid immigration into the "teeming cities," for example, free public education expressed the need for some minimum "Americanization," whereas the ghetto expressed the impulse to cultural self-preservation (both by the natives who excluded and the immigrants who segregated themselves). In the rest of the country, 4th of July style patriotic rhetoric expressed the gropings toward an elementary national identity, whereas provincial arrogance – and hostility to "the government" and to centers of cosmopolitan influence – expressed the affirmation of narrow local autonomies. The ambivalence was really a double ambivalence; each polar position was itself unstable: to be truly tenable, a pluralist ideology must accord intrinsic honor and value to a diversity of life styles, and this it has never completely done. The salient features of minority subcultural styles have more often than not been regarded as stigmata by dominant groups, tolerable so long as they were temporary, that is, *transitional* to something approaching the dominant cultural style. On the other hand, the attempts of provincial, nativist, ("WASP") groups to secure their own style as *the* American style stopped short of supporting the emergence of broadly inclusive *national* institutions which would have facilitated that transition. The most enthusiastic celebrators of "Americanism" were precisely the groups who were most wary of integrating the varieties of the national life into a unified culture.

Indeed, a unified national culture has until quite recently been a most improbable prospect, since the United States has traditionally been a society without very powerful national institutions with which to promote that unity and pass it on down the generations. Without an established church or a powerful federal government, without national political parties or a standardized educational system, enormous distances and poor communications enabled local economies to breed a highly differentiated system of *native* subcultures – in addition to those created by the immigrants. Even today, there are probably dozens of distinctive American types, to some extent stereotypes, perhaps, but which nevertheless call attention to the wide variety of *native* styles: Vermont farmers and Boston Brahmins, Southern Bourbons and Tennessee hillbillies, Beatniks and organization men, Plain-

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villers, Middletowners, and cosmopolitan intellectuals, to say nothing of teenagers, the jet set, and many, many more, all American, all different, and none probably very eager to be integrated into an idea of "*the* American" at a level of complexity suitable for a *Time* cover story or a patriotic war movie.

It is not surprising, then, that when one tries to abstract from American life a system of values which can be called distinctively or representatively American, the task is immensely difficult. The most systematic attempt by a sociologist, that of Robin Williams in his book *American Society,* is foiled by the fact that important groups in American society do not share the 15 or 16 values which he offers as basically American. There is no question that values such as "achievement," "work," "efficiency," "equality," and the rest have played a signicant role in creating the quality of American life, but important parts of the lower and working classes (important because of their numbers) do not share them, and important parts of the upper class (important because of their influence) do not share them – although they may affirm them when a journalist is nearby.

Myths and styles of life

The persistent attempts to find some transcendent principles or values which define the unity of American culture have been defeated by the persistence of important class and ethnic differences. Even under natural or "organic" conditions, then, "American" patterns of culture are enormously difficult to describe with any accuracy. This difficulty is exacerbated when a society becomes sophisticated enough to be self conscious about its culture and rich enough to do something about it. The maturity and the luxury of our civilization constrain its elites to define an "American" style, and the miracle of our technology arms us to manufacture it. Our society is wealthy enough to support a substantial class of intellectuals devoted to staying on top of contemporary events to "spot the trend," "see the pattern," "find the meaning," "discover the style." And our media are such that these spottings and seeings are more or less instantaneously communicated to audiences of millions, whose demand upon the marketers of opinions and interpretations for sensible and coherent syntheses is greater than the available supply.

Under such conditions, we do not get serious historical interpretation of contemporary events; we do not even get responsible journalism; we get myths, which themselves become part of the forces shaping what is happening, and which hence function ideologically. The myth of suburbia fosters an image of a homogeneous and classless America without a trace of ethnicity but fully equipped for happiness by the marvelous productivity of American industry: the ranch house with the occupied two-car garage, the refrigerator and freezer, the

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washer and dryer, the garbage disposal and the built-in range and dishwasher, the color TV and the hi-fi stereo. Suburbia: its lawns trim, its driveways clean, its children happy on its curving streets and in its pastel schools. Suburbia, California style, is America.

Most American intellectuals have sustained this myth in order to hate it; but the bases of their antipathy have never really been made clear. Somehow associated with these physical symbols of suburbia in the minds of most intellectuals are complacency, smugness, conformity, status anxiety, and all the rest of the by now familiar and dreary catalogue of suburban culture. But the causal connection between the physical character and the alleged cultural style of suburbia has never been clearly established. It is almost as if American intellectuals felt, like some severe old Calvinist prophet, that physical comfort necessarily meant intellectual sloth. Perhaps it is because we have been too well trained to believe that there is somehow a direct relationship between the physical structure or the esthetic shape of a residential environment and the sort of values and culture it can possibly engender – so that the esthetic monotony of suburbia could house nothing but a generation of dull, monotonous people, and its cheerful poverty of architectural design could breed nothing but a race of happy robots. The only trouble with this view is that there is little evidence and less logic to support it. Most of the adult suburbanites were *urban* bred, and hence presumably already shaped by the time they became suburbanites. And although it is still a little too early to tell what kind of culture will be produced by the generation bred in the manufactured environment of suburbia, we might remember that the generation bred in the endless and prison-like New York tenements did not do badly.

But becoming aware of the myth of suburbia, and pointing to the disparities between it and what we actually know of suburbs we have closely studied, should not be confused with a *defense* of suburbia. Nor should anything I have said about the critics of suburbia be interpreted as an expression of my personal bias in favor of suburbia. As I suggested earlier, myths are potent enough to survive evidence; they are not disarmed by understanding. Quite the contrary. Once myths gain currency, once they go, as we say, "into the cultural air", they *become real*, and function frequently as self-fulfilling prophecies. Life copies literature; fact is affected by fiction; history is constrained by myth. "If a situation is defined as real," said William I. Thomas, "it is real in its consequences," and I have no doubt (though I have no data) that family decisions regarding whether to move to the suburbs have been affected (both pro and con) by the myth of suburbia. And despite everything reasonable I have said about suburbs, I *know* that the fact that I unreasonably dislike them has been conditioned, *beyond the possibility of redemption by mere research*, by the very

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myth of suburbia I have helped explode.

In the sense in which I have been speaking of them, myths are more or less noble fictions; fictions in that they are *made,* and noble depending on the art with which they are made, the extent to which one is in favor of the consequences they foster, and, most particularly, the forms of solidarity they promote. In the context of the debate over "suburbia," what is usually at stake is whose version of America shall become "American."

Pluralism and planning

Whose shall? I want to suggest that the question is relevant to the way in which the future quality of urban life is planned. Like Emile Durkheim, who suggested that the punishment of crime was significant less as a deterrent or as simple revenge than as a collective reaffirmation of cultural values, I want to suggest that we look more closely at the images of solidarity which inform the proposals for dealing with social problems in general, and with urban problems in particular. For social problems, of course, have no objective existence – although the facts to which they refer may. It is objectively true that some people have always lived in dilapidated, unsafe, unheated, vermin-infested residences, but "slums" have not always been a social problem. Slums become a social problem when a large enough group of important people decide that poor people ought not to live in such places.

Americans have a propensity to find social problems. By defining them as real and hence setting ameliorative forces into action, we affirm our liberal heritage. To find problems, to mobilize opinion about them, to shake our social structure by its metaphorical shoulders and force it to *pay attention* to these matters, nourishes our beliefs in progress and perfectibility. America is a country dedicated to the propositions that no evils are ineradicable, no problems insoluble, no recalcitrance beyond conciliation, no ending need be unhappy; we are a most un-Greek democracy. Finding and dealing with problems, then, are necessary conditions for the verification of these propositions; the very existence of social problems to ameliorate, reaffirms our principles more than any imaginable utopia could. But not just any problems at any time. Because at any given moment there is an indefinitely large number of social problems which are theoretically identifiable, public concern with some (to the exclusion of others) can be understood not only in terms of the salience of the difficulties of those who *have* the problems but also in terms of the relevance of proposed solutions to the dominant forms and rhetoric of solidarity.

When we set out to improve the quality of urban life, what we are most likely to be doing is altering the conditions under which weak and vulnerable sections of the population live. The wealthy, who also

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have problems, are protected from the welfare impulses of others. The strong and the autonomous grant no one the right to alter the conditions of their lives – that is what strength and autonomy are about. Public concern over, and desire to plan for, "the problem of" the increasing proportions of aged persons in our society, for example, do not extend to Dwight Eisenhower, Harry Truman, or H. L. Hunt, all of whom qualify for the statistical category "aged," but not for our image of those who need help – although, if consulted, I might have several suggestions as to how they might spend their declining years more wholesomely. The people who have the problems which are defined as "real" are those who are vulnerable to public action, and thus to the implicit images of solidarity which underlie that action. I think it is essential that we be very clear about these images, for to plan for the *quality* of urban life is to be concerned with the *culture* of urban life, and hence with the forms of human solidarity which planning is likely both to foster and discourage.

I see three broad alternatives for those who are confronted with the problem of planning the quality of urban life. First of all, planners can simply abdicate from any concern for the cultural consequences of what they do, and instead interpret their mandate narrowly – for example, the improvement of the physical environment for the poorly housed. To the extent that they have been planned at all, most new, inexpensive suburbs have been developed in this way – with occasional exceptions, as in the gestures by the Levittowns toward the provision of some institutional facilities. More centrally located urban residential development for the poor and the less-than-affluent has also been dominated by considerations such as square footage, hygiene, and domestic technology. Now to provide room, cleanliness, comfort, and convenience to people who have previously been without them is an important achievement; but it is not planning for the quality of urban life. Quite the contrary; the *quality* of urban life is precisely what is usually left out of consideration – perhaps as a luxury rendered expendable by the need to bring large numbers of people up to some minimum physical standard. Under these conditions of planning, images of human solidarity seem limited exclusively to *households* within which *family* solidarity may be symbolized by culinary and recreational technology (refrigerators, freezers, barbecues, TVs, etc.), whereas solidarities beyond that of the family and household seem irrelevant, alien, or distant. There is a sense in which this alternative is evasive because such planning *does* engender a quality in urban life, but it is the quality that most cultivated foreign observers complain about in most American cities.

Planning's second alternative, it seems to me, is to make a conscious effort to alter the environments of certain groups, with the overt intention of bringing their culture closer to some monolithic or homog-

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eneous ideal. Presumably, this would be some more advanced version of the melting pot idea, in which either a bureaucratic or entrepreneurial version of a middle class life-style would be given as an ideal toward which the poor should be encouraged to reach. Here the aim would be to make the society more monolithically what it already dominantly is. This alternative founders on its utopianism, on its assumption that a cultural consensus can be engineered or induced in a society in which conflict is endemic and which will remain so as long as the interests of groups and classes remain opposed. In the absence of any ability by planners to wipe out class differences, we must expect, in any multi-class community, controversy not only over the appropriate means to reach agreed-upon goals but over the goals themselves and the priorities to be assigned to them. This is the stuff of politics and culture, and where interests and norms are rooted in a class-based style of life, the attempt by one group to elicit the commitment of the entire community to a specific goal will very likely threaten another group and elicit its opposition. Moreover, these political and cultural diversities have a right to exist and persist. We can be reasonably sure that the vulnerable and dependent groups most readily affected by planning would gladly be rid of their slums, their poverty, and the discrimination against them. Beyond this it is difficult to assume anything with great assurance except, perhaps, that groups develop an attachment to those aspects of their culture which have not been imposed by necessity, an attachment made evident by their tendency to take the culture with them when they move from one environment to another, and to preserve whatever of it that circumstances permit. On the other hand, utopian planning dominated by visions of profound cultural changes is always interesting, and such planners might well devote more energy to making these visionary ideals manifest and rhetorically vivid, if only in order to help others to know whether to be for or against the form of solidarity they envision.

The pluralist alternative

Finally, there is the pluralist alternative, an alternative perhaps best expressed in the recent work of Herbert Gans, and, to a lesser extent, of Jane Jacobs. Whatever reservations one may have about the work of either, each of them projects an unambiguous image of the kind of human solidarity they would like to see fostered by urban planning. This solidarity is loose and heterogeneous, composed of more or less autonomous groups and neighborhoods formed on the basis of ethnicity and social class; communities attached, perhaps, to the notion that good fences make good neighbors, but necessarily related to one another through those political and economic accommodations long characteristic of urban life. If they are open to criticism as "romanticists" (although it is not clear to me why a preference for

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dense street life, or an insistence that an ethnic working-class neighborhood is not necessarily a slum, renders one vulnerable to such criticism), it should at least be said in their defense that they obviously care enough about the *quality* of urban life to evoke a strong and clear image of it (something their critics do not always do)—strong enough in Mrs. Jacobs' case and clear enough in Professor Gans' case to make it easy for a reader to be for or against them.

I am mostly for them, since planning for pluralism seems to me not only the most sensible way of responding to the fact of persisting cultural diversities but the most honorable way as well. In making their assumptions, planners might first of all assume (it is the most reasonable assumption) that most groups which are displaced by planning *will take their culture with them* if they can. Planners would do well to anticipate this, and to modify their plans accordingly, to facilitate the preservation of those parts of their culture that the groups want preserved. This means that planning would have to be done *for specific types of people with distinctive cultural styles*, that is, for a variety of specific, known tastes rather than for faceless densities with a given amount of disposable income for housing. A working class group with a durable pattern of sexual segregation (husbands and wives living largely separate extra-familial lives) requires for its sustenance residential and community facilities different from those required by a middle class group with a culture pattern emphasizing companionable family togetherness.

If the strain put upon the middle class biases of professional planners by such considerations seems excessive, I ask only that you think of the problem of the Negro ghetto and the potential controversy about whether *its* subculture ought to be preserved. People as different as a sociologist like Lee Rainwater and a Negro leader like James Baldwin have remarked (without clearly deploring it) upon the Dyonisianism prevalent in the Negro ghetto. Now, this is a culture pattern which clearly is both at once an adaptation to the trapped character of ghetto life, and a means of providing compensatory satisfactions for that blocked access to middle class life. If the satisfactions are not only compensatory but real, planners might think about providing facilities for the nourishment of this psycho-cultural pattern — even as they think about eliminating the enforced segregation and demoralization which make it more attractive.

Even after discrimination on the basis of race disappears, however, we have no evidence to suggest that segregation will ever disappear. If the experience of other ethnic groups is any guide (and I know of no better guide), many Negroes will choose to live among their own "kind" even after they have formally free choice of housing. However "kind" may be defined in the future, there is no reason *not* to expect social class and ethnicity to continue to play an important role — al-

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though it is quite conceivable that color may eventually not have much to do with ethnicity. We know little enough about the nature of ethnicity – and even less, perhaps, about which members of an ethnic group *prefer* to live in ghettoes, or why, even after they can live almost wherever they please. But the *fact* that many of them do is beyond question. We have no reason *not* to expect this to be true of Negroes also, particularly of those whose views are represented by the most militant Negro leaders, insistent upon the acceptance of Negroes into American society *as Negroes* – with all that this historically implies.

I hope it is clear that these remarks are not the elaborate rationalizations of a conservative searching for an acceptable rhetoric to defend the *status quo*. Quite the contrary; they are the remarks of a sociologist who, being for the extension of the widest possible range of choice to all segments of the population, nevertheless knows that choices are hardly ever random, and that no man is so free that he is not constrained by the norms of the groups to which he belongs or would like to belong. This is as it should be; but the sense of choice rests on the existence of real alternatives. Cultural diversity has somehow been maintained in the suburbs without much help from planners. We may not be so lucky in the cities unless planners begin to understand the conditions of cultural distinctiveness and to design for it.

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Thinking machines: myths and actualities

GEORGE A. MILLER

Some questions are like a cavity in a tooth; we keep coming back to probe them over and over until our tongues grow raw on their jagged edges. My topic is one of these. It has been explored almost without intermission for three hundred years. No one could estimate how many learned essays and lectures have been devoted to it. Dozens of articles and books sharing the generic titles, *Minds, Machines, and Other Things* are appearing daily. The pace at which these works are produced has grown in direct ratio to the complexity of the machines we can construct, which is to say that there has been an enormous outpouring of them in the last decade or two. The irritant for this recent outbreak of probing, of course, has been the emergence of automatic computing machines as a major influence in our lives. These new machines have enormously enlarged our conception of what a machine can be and do, and with every such enlargement it seems necessary to consider once again the ancient problem of the relation between men and machines.

Like most problems of any real importance, the relation between men and machines raises both theoretical and practical issues. The theoretical question – which is at least as old as the philosophy of Descartes – concerns the extent to which our brains can be considered as machines. The practical question – which is not entirely unrelated, but which, being practical, seems more immediately urg-

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ent – concerns the impact of these new machines on the social and economic institutions that regulate our daily co-existence. I shall consider the theoretical question first, because I think it has something to teach us that will be useful when we turn to more practical matters.

For many years I have studied the psychological processes that are entailed by our linguistic skills in communicating with one another, skills of enormous complexity and uniquely human in character. Since my interest in the psychological aspects of communication is even older than the automatic computers, I can remember what those days Before Computers were like. When I try to compare them with the present, I can think of no summary statement more appropriate than that made by a famous American athlete who said, "I've been rich, and I've been poor, and believe me, rich is better," Believe me, computers are better.

Lest I confuse the reader with the puzzle of what computers have to do with the psychology of communication, however, let me plunge *in medias res.*

Can machines think?

Several years ago the English mathematician, A. M. Turing, considered the difficult question of whether or not a computing machine can think. Since the semantic and metaphysical issues involved are apparently unresolvable, Turing rephrased it. Can a computing machine, he asked, behave in the way we behave when we say we are thinking? This rephrased question, he felt, might have an answer, and to make the issue perfectly definite, he proposed what he called the "imitation game." In the imitation game a computer is compared with a human being in terms of the answers it gives to an interrogator; if the interrogator is unable to determine when he is communicating with a human being and when he is communicating with a computer, then, Turing would say, the machine must be behaving in a human manner. And that, he implied, is all anyone should ever mean by the question, "Can machines think?" Turing, writing in 1950, predicted that within fifty years it would be possible to build and program computers that could do well at the imitation game. We have not seen them yet, but his prophecy has several years to run.

I have referred to Turing's question not because I wanted to approve or disapprove of it – certainly not because I think I can answer it – but rather because it illustrates how intimate are the relations among computers, communication, and cognition. To understand better the cognitive processes we call thinking. Turing proposed to simulate them on a computing machine and to test the quality of the simulation in terms of the machine's performance in a communication situation. Human intelligence is best demonstrated when we communicate; if a machine is to be considered our equal,

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then it must communicate as we do. Which illustrates how such apparently unrelated topics as computers and communication can become important for psychologists.

Two easily recognizable groups frequently object when this question is seriously discussed. One group feels that such a question is morally reprehensible, that to compare man and machine diminishes the human spirit. Of course, science has been whittling away at our self conceit ever since it pushed us out of the centre of the universe and discovered the apes in our family tree, but whether science has thereby diminished or augmented human dignity is not entirely clear. In any case, these are not the critics I wish to answer. I respect their opinions; I hope they respond in kind.

In many ways the second group is more interesting, for it consists of men who know computers thoroughly, from top to bottom and inside out. Many of the real professionals – men who developed these wonderful machines and discovered how to use them – consider the question absolutely absurd. They understand all too well the limitations of their new toy and they would blush crimson if anyone caught them referring to it as a "giant brain" or a "thinking machine." They know whose brains did the real thinking behind all this new technology, and it was not the machine's.

I feel these objectors must be taken seriously, for they have earned their right to respect from those of us who hope to profit from the interaction of computers, communication, and cognition. The nature of their objections can be revealed most clearly, I believe, if we review briefly something of the history of their work.

The automatic desk calculator

Leaving aside the well known story of Charles Babbage and his Analytical Engines, the history of modern digital computers began about twenty-five or thirty years ago when engineers attempted to make the ordinary, manually-operated desk calculator fully automatic.

Think for a moment of the way a human operator uses an adding machine. He begins with numerical data and a formula into which they are to be inserted. From the formula he sets up a sequence of operations that must be performed. Following this sequence, he pushes keys to put numbers into the machine, then pushes other keys to tell the machine what arithmetical operations to perform, and finally copies down the result on a piece of paper. These results can then be put back into the machine and further operations performed on them in turn, and the cycle repeated until the full list of instructions has been executed.

Key punching and copying are slow and tedious, so it is natural to think that the machine might just as well do them for itself. This was the idea behind the first "fully automatic" computers. The com-

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plete sequence of instructions was prepared in advance in a form the machine could sense and interpret; usually in the form of holes punched in a long paper tape. All the data were similarly prepared in advance on another tape. Then, instead of requiring the operator to copy down the intermediate results and feed them back into the machine, the machine was given a memory of its own – a sort of mechanical scratch pad – where numbers could be stored temporarily until they were needed. Once all was ready, the operator simply pressed a button and the whole computation ran off automatically. Not only did this enlarged adding machine eliminate most of the mistakes that human operators seem unable to avoid; it also worked much faster, so that computations previously considered too laborious to undertake by hand could now be accomplished in a few hours.

All this is a familiar story, of course. I mention it only to recollect an attitude toward computers that prevailed in those days. Recall the use made of the early machines. One of the first projects was to compute the values of various important mathematical functions with great accuracy and to publish the resulting tables in order to make them available to scientists and mathematicians. No example could better illustrate how completely they missed the significance of their own invention. They wanted to make it easier to perform accurate computations in the traditional sense of that term, and they knew from personal experience how valuable good mathematical tables had always been to a working mathematician. What they failed to see was that the computer itself made the mathematical tables unnecessary. From that time on nobody would bother to refer to a table when he could simply ask a computer to generate the value of the function as needed in the course of a computation.

The automatic filing cabinet

It was, of course, this initial focus on numerical calculation that gave the new machines the name "computers." If that name had never been adopted, if we were suddenly faced for the first time with the modern machines and asked to find an appropriate name for them, I doubt that "computer" would now be our first choice. "Information processing machines" would be more likely. Computing is only one of many operations a contemporary machine can perform, and some of its applications are wholly non-numerical. But it was originally conceived as an extension and enlargement of the adding machine, so "computer" it has been ever since. When you look at computers as glorified adding machines, of course, there is little temptation to claim that they are thinking any more than their smaller ancestors had been thinking while their gears spun around.

Development did not stop there, however. If the first generation of computers can be said to have been modelled on the idea of the

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adding machine, the metaphor that is most appropriate for the second generation is the filing cabinet. I said that a certain amount of memory had been provided in the first machines, enough to enable them to store intermediate results temporarily during the process of computation. In the next stage this feature of the computer expanded enormously. All the skill and ingenuity of the inventors and machine designers was directed toward enlarging the capacity for storing information.

One consequence was to increase the speed at which machines could operate. To consult punched tapes every time a new datum or a new instruction was needed is relatively slow. With an enlarged memory, both data and instructions could be stored in the computer before the computations began, and could be retrieved with the speed of electrical conduction. As John von Neumann foresaw, storing the program of instructions in the machine turned out to be an especially significant advance, because a machine could then modify its own instructions as the computation proceeded and could select its next instruction from any point in the program depending on the outcome of preceding instructions. The flexibility of programming that resulted from this simple but profound innovation is an essential characteristic of modern digital machines.

Not only did larger memories make computation more efficient; they also made possible new applications for the machines in business and government. The contents of the filing cabinets – inventories, accounts, personnel records, and all varieties of economic and statistical information – could be dumped into the computer's enlarged memory, there to be processed by the fastest and most accurate bookkeeper ever created. And so it came to pass that the development of computers with large memories rewarded the customer and manufacturer alike. Without this financial support, the development of the new machines would never have been economically feasible.

The addition of a large memory, however, still did not turn a computing machine into a thinking machine. If a desk calculator does not think, and if a filing cabinet does not think, why should anyone imagine that they would start thinking when we put them together?

The automatic voltmeter

The third generation of computing machines also had a metaphorical progenitor: the voltmeter. The simplest kind of voltmeter has a pair of electrodes that serve as its sense organs to pick up differences in electrical potential, and some kind of scale-and-pointer arrangement to publish the measured voltage. When engineers began to dream about the possible embellishments they could add to this simple scheme, a whole sequence of new devices began to appear. First came the substitution of a cathode-ray oscilloscope for the scale-and-

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pointer. This resulted in an extremely useful instrument that converted electrical voltages into visible wave forms. A certain amount of electronic circuitry is needed to generate this visual display, of course, but not so much that it cannot be built into an easily portable cabinet. But as computers entered the scene it was inevitable that they would be used to process the incoming electrical data in ever more complicated ways before it was displayed. The result was the development of the most flexible and intricate "voltmeters" that the fertile engineering mind could imagine. This time economic support came from the military departments, because such systems are extremely valuable for processing information from radar receivers and other sources and presenting it in forms most convenient for military commanders.

For these computers the data does not have to be collected in advance and painstakingly copied in a form acceptable to the computer. These new machines have their own sense organs and can feed information directly into the computer, untouched by human hands, where it can be digested, processed, and displayed in a form more intelligible to a human operator. Their usefulness is not limited to military systems, of course. Wherever computations must be performed in what engineers like to call "real time," wherever an immediate display of the processed data is required, these supervoltmeters prove their value.

Take an adding machine, give it access to a filing cabinet, attach a battery of sensors to report events in the environment, throw in an oscilloscope or two for instantaneous communication with the operator, and you have a very modern computer. In some respects its general design resembles an organism's, which is the reason we use such terms as "memory" and "sense organs" to describe it. But those engineers who watched it grow, who know how much real human thinking is required to compose its instruction programs, are still not inclined to speak of it as a "thinking machine."

Cheap memories

The machines are continuing to evolve, however, and perhaps they will become more humanoid as time goes on. For a glimpse of the future, we must look at current developments in new components and try to imagine how they may be put to use in the next generation of machines. I believe the most significant advances can be expected from the development of new and less expensive techniques for storing information.

When Robert Graves delivered the annual Oration of the London School of Economics and Political Science, he approached his subject, as a poet should, by looking into the etymology of the word "money." *Money,* he found, came from the Latin *moneta,* which in turn was derived from the Greek *Mnemosyne,* meaning " an act of memory."

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Which only proves once again that the more things change, the more they are the same. This close association between money and memory has been forcefully reaffirmed in the modern world by the manufacturers of computers. I have been told that one could estimate the price of a computer in the United States rather accurately if one simply counted the number of binary digits that could be stored in its core memory as worth $1.00 apiece. A million bits of memory, a million dollar computer. Obviously, if you need a very large computer, you must have a very large budget.

The cost of memory, measured in dollars per bit, has been decreasing steadily, however, and no doubt the figure I have just quoted is out of date by now. My friends who know about these things say that in a few years we should be able to produce storage devices for computers at a cost of only a fraction of a cent per bit. If so, an economic bottleneck will have been broken and fantastically large memories will become commercially available.

What new horizons will this open up? Predictions are always hazardous, but I believe it means that the next generation of machines will be modelled along the lines of what in the United States we call a public utility. Just as we can plug our electrical appliances into the wall and draw power from a central station, so in the future we shall be able to plug our typewriters into the telephone system and draw intelligence from a central computer.

Already a pilot model of such a system is operating at the Massachusetts Institute of Technology. Each subscriber has a teletypewriter beside his desk. When he wants to write a computer program, or consult data he has previously stored in the computer, or execute some particular computation, he simply turns on his typewriter and gives the appropriate instructions. The computer replies by writing the results on his typewriter, meanwhile keeping track of how much work it is doing so that he can be billed at the end of the month.

The trick that makes such systems possible with present day computers is called "time sharing." The operator actually has access to the computer for only a small fraction of each second; the rest of the time the computer is working for its other customers. The computer operates so much faster than the customer that it can serve many other masters while the first is still thinking what to do next. The service is actually sequential and intermittent, but for most purposes it seems continuous to the men who are using it. With the very large memories that are soon to be available, the computer can become more than a filing cabinet; it can serve as a public archive where we can all store our data and our programs together.

The advantage of this public service concept of computers is not merely that it saves a customer the inconvenience of walking from his office to the computer and standing in a queue to consult the oracle,

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although even that is not to be despised. More important is the intimate man-machine interaction that becomes possible. The great concealed cost of computers, as everyone knows who has tried to use them, lies in the time required to write programs of instructions for them. At present a program must be written, prepared for the computer, run, printed out, and the results studied to discover what mistakes must be corrected. This writing, running, studying, correcting cycle is slow and inefficient; a complete cycle usually takes twenty-four hours or longer. With a time-shared computer a programmer can interact continuously with the machine and correct his mistakes as he goes along. The increase in efficiency resulting from this close man-machine collaboration has amazed even its most hopeful proponents.

Giant brains

Computers modelled after adding machines, filing cabinets, voltmeters — these are all well and good. But how long will it be before we have computers modelled after the human brain? Some believe we have already accomplished it. To balance the enthusiasts are the sceptics who believe we can never accomplish it.

It seems perfectly obvious to me that both parties are speaking beside the point. Whatever else a brain may be it most certainly is *not* a digital computer. Until we begin to develop computers along entirely different lines than we have in the past, I see little hope of finding anything but crude analogies between them. We are today about as far from building a computer modelled on the human brain as Archimedes was from building an atom bomb. I do not mean this as a criticism of computer engineers. I mean simply that we do not yet know enough about the brain or the principles on which it operates.

In the first blush of enthusiasm over the new machines we heard a great deal about analogies between relays and synapses, between electrical pulses and the nerve impulse, between the wiring of a computer and networks of neurons in the brain, etc. Some scientists still talk this way, but I believe that most people who have seriously compared the computer to the brain are more impressed by the differences than by the similarities.

You can build a computer along the lines of an adding machine, or a filing cabinet, or a voltmeter because these devices are relatively simple and because, since we invented them, we can understand them. The situation is quite different when we talk about building a computer modelled on the living brain. A brain is not some simple gadget that we conceived and built; it operates in ways still unknown to science or technology. Until its general principles are understood, it is vain to talk of building computers based on them. Let us, therefore,

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put aside the notion that there should be any point-for-point resemblance between computers and brains. We are not — or should not be — concerned with superficial analogies.

Which seems to put a full stop at the end of one line of speculation.

The cybernetic approach

Why, then, should a psychologist, or any other student of living organisms, find computers interesting? And it is a fact that many of us do find them so. It is not merely because they process our data for us, or solve our equations for us, or control our experiments for us, although these services are all valuable. Our enthusiasm comes from a different source.

Someone has pointed out that a major difference between the physical and the biological sciences lies in the fact that the physical scientist formulates propositions of greater generality. A biologist is properly concerned only with organisms that actually exist. A physical scientist, however, is free to consider the set of all possible universes, of which our actual universe is only a special instance. This difference in method grows a bit hazy in the field of molecular biology, where biologists have adopted most effectively the strategy of the physical scientists, but at the level of whole, intact organisms adapting to their natural and social environments, I consider the difference both real and significant. Physicists deal generally with both the actual and the possible; biologists are largely confined to the realm of the actual.

Suppose, however, that we were to approach the study of whole organisms from a physical point of view. Suppose, that is, we were to study not merely the organisms that actually exist, but were to consider the full class of all possible systems — whether they exist or not, whether they are animate or inanimate — that might perform functions biological systems are known to perform. If this abstract approach were feasible, we might hope to formulate theories so universal and so powerful that they could be applied to organisms and machines alike. Then we would not be entangled in a fruitless argument that organisms are nothing but machines. Instead, both machines and organisms, insofar as they performed the same function, would be seen as particular instances of theoretical systems of far greater generality.

It is this possibility that provides the real source of our excitement, and keeps the cyberneticist hard at work in the face of all criticism that actual organisms and actual computing machines are very different things. He hopes to look beyond these actual instances to discover general principles governing all possible systems.

In order to adopt this abstract approach it is essential to select some clear and well-defined function as our starting point. We must decide in advance what function we wish to generalize and then con-

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centrate on defining and reproducing that aspect of behavior at the expense of all others. If, as in Turing's imitation game, we decide it is the function of linguistic communication we are going to generalize, then we will probably forget about the other functions – digestion, say, or driving an automobile – that people also perform. (Turing carried this abstraction even further; he was willing to let the interrogator communicate with his human and mechanical partners by teletypewriter, thus leaving out of account the problem of producing natural speech with all its intonations, hesitations, and subtle shadings.) Turing eliminated these other aspects of normal human behavior both to simplify and to clarify the problem; other aspects might be simulated as well, but the significantly human accomplishment that lies at the heart of his problem is our ability to string words together in meaningful, grammatical sentences. He abstracted one important and reasonably well defined function that people perform and posed the problem of generalizing that particular function.

Our aim, therefore, is to enunciate general principles of the following form: "If any device is to perform function X, then that device is subject to or limited by the principles Y which must hold for all possible devices performing this function."

We want to formulate general principles that will describe all possible devices of a given class, regardless of their particular anatomy or mechanism.

Now, with this aim in mind, consider one strategy we might adopt in our search for such general principles. It is obvious that machines have taken over many functions previously performed only by human beings. If we examine all the different ways in which machines have accomplished any one of these functions, we should find – since we understand the machines quite well – that they have certain features in common. If we can show that these common features are not the result of some poverty in their inventor's resources or imagination, but follow necessarily from the nature of the function being performed, then we know that they must also apply to human beings insofar as human beings are also able to perform that function.

More often, however, we will find that our mechanical solutions fall into several distinct types, in which case we may be able to say that any device performing function X must be of type A, or type B, or type C, etc. Then we know that a human being, insofar as he also performs function X, must be of type A, B, or C, etc. We are then faced with a well-defined empirical problem. Can we determine which type a living organism is? At this point, an experimental scientist must undertake to devise tests that will settle the question.

Unfortunately, we are not always in the position of knowing that all devices performing a particular function *must* be of a single type, or *must* be one of a limited number of possible types. Even after we

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have invented three or four ways to perform the function, we may still be unable to show that we have exhausted all the possibilities. There may be other solutions that we have not been clever enough to see. This situation is far less satisfactory, but it is still worthwhile to try to determine whether or not living organisms belong to one of the general types that we have invented. If the answer is "yes," then we understand that much more about the living organism; if the answer is "no," then we are encouraged to continue our search for alternative ways of performing the function by machines. In either case, we know more than we did before.

These remarks on the virtues of abstraction have, I fear, been quite abstract in themselves. So let me resort to a few examples of this strategy of research.

An example: noise

First, the case in which all devices performing function X must be of a single type. One example would be the following: any device that performs the function of a communication channel can produce only a finite number of distinguishably different output signals per second. Even in the best communication systems there is a residual level of noise that cannot be eliminated; as we try to make finer and finer distinctions between the output signals, we will eventually encounter this random noise, which sets a limit to the accuracy of our discriminations. This generalization must hold for human beings as well, insofar as human beings can perform the function of a communication channel. Offhand, this principle is so general that there would seem to be little for an experimental scientist to do about it. In fact, however, it has led to a great deal of experimentation by psychologists, who have wanted to measure the noise level of the human channel. The measurement is generally stated in units called "bits" of information. It has been estimated that, under optimal conditions, a human being has a channel capacity of about 25 bits per second. This means that each second a human channel can select any one from about $2^{25} = 200{,}000{,}000$ distinguishably different responses. This may impress you as a very large number, but let me remind you that our electronic communication channels regularly transmit thousands or millions of bits of information per second. By comparison, our capacity of 25 bits per second is puny indeed. Considered as communication channels, human beings have a rather high noise level.

I would like to call attention to the exact wording I have used. I said that this general law must hold for human beings *insofar as human beings perform the particular function* in question. What I have *not* said is that, since the laws governing communication channels can be applied to human beings, human beings are nothing but communication channels. I always distrust the man who says that

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human beings are "nothing but" something else, for he is deliberately concealing the abstraction on which his claim is based. Human beings are nothing but human beings.

An example: subroutines

Next, the case in which all devices performing function X must belong to one of a limited set of possible types. Let us begin with a simple example.

Consider the following: any device that is to perform the function of answering a question must either (a) obtain the answer by consulting some memory where the answer is stored, or (b) synthesize the answer from other information according to a set of rules. If, for example, you are asked the value of the logarithm of 75, you can either (a) remember it – which would include looking it up in a table that remembered it for you – or (b) compute it by carrying out some rather tedious calculation that most of us do not remember how to do. Similarly, if in the course of solving some problem on a computer it will be necessary to know the value of a logarithm, we must either store a table of logarithms in the computer's memory in advance, or we must give the computer a sequence of instructions that will enable it to calculate the value when it is needed. With a computer, alternative (b) would generally be preferred, since it uses the memory more efficiently, and we would prepare what is called a "subroutine" for computing logarithms. Each time the value of a logarithm was needed in the course of executing the main routine, the computer would interrupt what it was doing, refer to the logarithm subroutine to calculate the answer, and then resume the main routine where it had been left off.

In most cases both techniques are employed; some information is stored in memory, other information is reconstructed as needed. A fascinating problem for a psychologist is to try to tease apart these two methods of producing answers in human beings. The question has to be asked about each area of information separately, but it is my strong impression that we, like the computer, make very extensive use of the reconstructive method, that we remember most things by following rules for deducing what we need to know from other facts. We are, in short, equipped with a large assortment of subroutines – using that term now in a broad sense – that we can use to generate answers as they are needed.

An example: recursive subroutines

For a more esoteric illustration, let me refer to some of my own research. The idea behind it came from a comparison of the structure of computer programs and the structure of grammatical sentences,

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so I must introduce it with a few remarks about the way such structures are put together.

Once we have reached the level of complexity in programming computers where we can have subroutines stored away for use as needed, an interesting possibility emerges. Ordinarily, we interrupt the main routine to perform the subroutine, then return to the main routine when the subroutine is finished. It is possible, however, for one subroutine to refer to another subroutine. That is to say, we can program a computer in such a way that the subroutine itself is interrupted while some other subroutine is executed; when this second subroutine is completed, the computer returns to the first subroutine again, and when it in turn is finished, goes back to the main routine. The interruption is itself interrupted. Any busy person will recognize how easily this can happen.

An interesting situation arises when we ask whether or not a subroutine can refer to itself. Consider what this would mean. The computer interrupts its main routine to go into subroutine S. In the middle of executing subroutine S, however, before S is finished, the computer is instructed to stop what it is doing and begin to execute subroutine S all over again. This may sound a bit complicated, perhaps, but actually it is not. No trouble will arise until subroutine S is completed and the computer must decide where to resume its work. Unless special precautions are taken in writing the program, the computer will not be able to remember that the first time it finishes subroutine S it must re-enter subroutine S, and the second time it finishes subroutine S it must return to the main routine. In the slang of computer programmers, the second re-entry address is likely to "clobber" the machine's memory of the original re-entry address. The situation gets even more tangled, of course, if subroutine S can call on itself repeatedly, for each time it does so a new re-entry address must be remembered.

Programs that are written in such a way that subroutines can refer to themselves repeatedly in mid-flight are generally called "recursive," and programs that do not make such provisions are called "non-cursive." This gives us our two possible types of programs, or, if you like, two possible types of systems. It turns out, for reasons I will not go into, that recursive systems are intrinsically more powerful than non-recursive systems; they can do everything a non-recursive system can do, plus some other things that are impossible for the non-recursive system. So the distinction I have described, although it may seem rather subtle, is very important. Recursiveness is a desirable property to have in a computer programming language, and many ingenious strategems have been devised to make it available.

Now, enter the psychologist, armed with a conviction that people use subroutines in their own cognitive operations. Since any device

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that consults subroutines is either recursive on non-recursive, and since people use subroutines, which type of device are they?

One way to investigate this question presents itself in the realm of language. It is a feature of natural language – by "natural language" I mean the languages we ordinarily use in speaking to one another, as opposed to the "artificial language" that we have developed for mathematics, logic, computer programming, and so on – it is a feature of natural languages that sentences can be inserted inside of sentences. For example, *The king who said, "My kingdom for a horse," is dead,* contains the sentence, *My kingdom for a horse,* embedded in the middle of another sentence, *The king is dead.*

Think of a listener as processing information in order to understand this sentence. Obviously, his analysis of one sentence must be interrupted while he analyzes the embedded sentence. When he finishes analyzing the embedded sentence, he must then resume his analysis of the original sentence. Here we have all the elements present in a computer subroutine.

The question, of course, is whether we can do this more than once, that is to say, recursively. Let us try: *The person who cited, "The king who said, 'My kingdom for a horse,' is dead," as an example is a psychologist.* Most people find this just on the borderline of intelligibility: if I had not prepared you for it, you probably would not have understood. Let us go one step more: *The audience who just read, "The person who cited, 'The king who said, "My kingdom for a horse," is dead,' as an example is a psychologist," is very patient.* By now you should be ready to give up. If not, of course, I could go on this way indefinitely.

A psychological experiment

Even though they are grammatical, such sentences are obviously difficult to understand, which suggests that our ability to use subroutines that refer to themselves must be rather limited. My colleagues and I, however, wished to make a more objective measurement, so we asked people – students at Harvard University – to memorize sentences with various amounts of self-embedding in them. The grammatical device we used to embed sentences inside of sentences was the relative clause, which is particularly convenient because all of the sentences can have the same length.

Let me build up one example for you. Begin with the following five sentences: *The movie was applauded by the critics, The script made the movie, The novel became the script, The producer discovered the novel,* and *She thanked the producer.* The most intelligible way to combine these five sentences into one involves no embedding at all:

She thanked the producer who discovered the novel that became

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the script that made the movie that was applauded by the critics.

There is nothing difficult here. The structure of this sentence is the same as the nursery rhyme, "This is the cow with the crumpled horn that tossed the dog that worried the cat that killed the rat that ate that malt that lay in the house that Jack built." And that, of course, is easily understood and enjoyed by young children.

Now let us embed one of these relative clauses:

The producer (whom she thanked) discovered the novel that became the script that made the movie that was applauded by the critics.

There are still no problems. Everyone who knows English can drop into a subroutine for analyzing one embedded relative clause.

The interesting situation arises when we insert another relative clause into the middle of the first one, as follows:

The novel (that the producer (whom she thanked) discovered) became the script that made the movie that was applauded by the critics.

Now the plot begins to thicken, and it gets even thicker when we do it once more:

The script (that the novel (that the producer (whom she thanked) discovered) became) made the movie that was applauded by the critics.

Finally, with four embeddings:

The movie (that the script (that the novel (that the producer (whom she thanked) discovered) became) made) was applauded by the critics.

If you are able to understand this final version, it is only because I led you into it gradually. Our students did not have such a gentle initiation. They would hear for the first time something like:

The story that the book that the man whom the girl that Jack kissed met wrote told was about a nuclear war.

Their task was to memorize it, and we measured how well they could remember it as a function of the amount of studying they had done. Every version of the sentence contained exactly the same 22 words. All we did was to rearrange their order a bit, and so rearranged the order in which the listener's cognitive operations of analysis had to be performed. In spite of their unusual appearance, however, all of these embedded sentences are perfectly grammatical, by any reasonable interpretation of English grammar.

I think you can predict from your own reactions the performance of the subjects in our experiment. The simplest way to summarize the results is to say that everyone could handle one embedded clause, some could handle two, but everyone had trouble with three or more, The ability of some people to handle two embeddings indicates that we are not entirely bereft of recursive facilities, but their inability to deal easily with three or more tells us that our recursive resources,

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whatever they may be, are extremely limited, even in subjects as intelligent as Harvard students are reputed to be.

Introspection – that unreliable but irresistibly convenient tool of the psychologist – indicates that all is proceeding quite well with the embedded sentence until we encounter the long string of predicates, ". . . thanked discovered became made was applauded . . .," at which point our grasp of sentence structure collapses and we are left with a haphazard string of verbs. We are unable to locate the subjects associated with each successive predicate and that, of course, is exactly what we would predict if people were analyzing them as would a non-recursive computing machine that could not remember its re-entry addresses. This subjective hunch has been tested objectively by studying eye movements as people try to read such embedded sentences. Their eyes move forward along the line in a normal fashion until they come to the third or fourth verb; at that point, regressive eye movements occur as they begin to look frantically back and forth for the subject associated with each verb.

Now, I would be the last to claim that this little experiment solves all the problems of psychology, but I do think it is amusing and that it establishes an important point, namely, that we are very poor at dealing with recursive interruptions. If this result is confirmed in studies of interruption in other kinds of tasks, we may have to assign human beings to the general category of non-recursive devices. The fact that we are able to process information as effectively as we do without this powerful tool makes our cognitive functions all the more fascinating as objects for scientific research.

It is true that in everyday affairs we do not seem to suffer too severely from this limitation. But if you will recall the everyday situations in which you were able to resume what you were doing after your interruptions had been interrupted, I think you will agree that you were able to resume because the interrupted task itself remembered for you. If you are interrupted while painting a wall, when you return the wall will provide an unmistakable reminder of how far you had gone and where you should resume. It is only when you cannot count on the environment to remember your re-entry point that your cognitive limitations become a handicap. Perhaps it is because we can usually count on the task to remember for us that we have not evolved more extensive powers for recursion.

When we know that living organisms must, insofar as they are able to perform function X, fall into one of a limtied set of types of devices for performing that task, we are in a relatively good position to learn something interesting about them. In most situations, however, the most we can say is that there are several different ways a machine might perform the function, and all we can ask is whether the organism performs it similarly. If the organism does not – which will

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usually be the case unless we are very lucky – there is little we can do but continue to study the problem. There are so many examples of this sort, each surrounded by its own special penumbra of ignorance, that I dare not launch into examples.

Implications for the future

I trust these examples have managed to convey some sense of the detail with which a function must be analyzed before we can begin to talk of performing it with a computing machine. Learning to cope with the extreme literalness of computers is good discipline for a psychological theorist, for many of us are inclined to rely implicitly on common-sense explanations that tempt us to think we understand a process when, in fact, we cannot describe any detailed operations by which it might be accomplished.

As we have begun to spell out in detail what these cognitive operations might be, we have begun to see that above – or perhaps behind – the mass of detail there are often very general principles that govern the operation of any device, living or non-living, capable of performing the function in question. It is not a matter of reducing men to machines, but of discovering general principles applicable to men and machines alike. And this is an exciting prospect.

Practical applications of this kind of knowledge are difficult to foresee with either confidence or clarity, but I believe I can point to one general consequence that will emerge as our knowledge of information processing systems increases. By classifying man ever more accurately with respect to his capacities and incapacities for processing information, by discovering more about the general system that he exemplifies, we will gain increasingly deeper insight into how best to use computers to perform functions that are difficult for him. As our understanding increases, I think we will be better able to optimize the man-machine team. Mechanical intelligence will not ultimately replace human intelligence, but rather, by complementing our human intelligence, will supplement and amplify it. We will learn to supply by mechanical organs those functions that natural evolution has failed to provide.

Those of us who are optimistic about this general strategy of research expect that it will prove valuable in all areas of the biological, psychological, and social sciences. Perhaps we should restrain our enthusiasm until we have more substantial accomplishments to report. But if these advances actually occur, they will undoubtedly have rather profound effects on our lives as ordinary citizens, effects that may entail major readjustment in our conception of ourselves and our social institutions. If such adjustments do lie ahead, as a consequence of our advancing knowledge of information processing systems, it would be negligent of scientists not to discuss them publicly.

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Will our computers destroy us?

I said that I would discuss the ancient problem of the relation between men and machines on two levels. So far I have done so in a semi-philosophical vein; I have argued that the old question as to whether men are nothing but machines should be replaced by a more broadly conceived question about the nature of possible systems that both men and machines might exemplify as actual instances. There is, however, another and more practical question about the relation between men and machines, a question that has been growing increasingly urgent as the new machines have begun to shape the next step forward in our industrial revolution.

We have recently heard a great deal about the disruptive effects of computing machines on our social and economic institutions. In industry, computers mean automation, and automation is supposed to mean unemployment. The United States, with its extravagant investment in computers, is plagued by unemployment for unskilled workers; it is frequently argued that these facts are causally related. Already the computers have begun to displace workers whose tasks are simple and repetitive; clerical workers, workers on assembly lines, and the like. The variety of jobs formerly done only by humans that the machine can perform more rapidly, accurately, and economically increases with each new generation of computers. If we extrapolate this trend, say the pessimists, we are faced with the prospect of mass unemployment for all but a handful of highly trained, highly intelligent professionals, who will then be even more influential and overworked than they are at present. Only recently a distinguished English physicist predicted that within twenty years electronic engineers might have to become conscientious objectors in order to prevent these pernicious machines from wrecking our social and economic institutions.

According to the prophets of doom, our situation is hopeless. The computer is already stirring up industrial strife as management desires and labour resists the effects of automation. Great masses of people will soon be unemployed, and the devil will surely find work for their idle hands. The gap between advanced and developing nations will increase, thus heightening international tensions. People will become demoralized when the personal identification and self-respect that work confers is suddenly withdrawn. The educational system will be unable to educate citizens for life in the Leisure State. All the industrial and commercial machinery of production and distribution of commodities will have to be taken over by the state, which will lead inevitably to tighter economic controls or even dictatorship. And so on and on runs this hopeless catalogue. I find it difficult to state these awful anticipations convincingly, because I do not believe in them, but those who do believe can make Aldous Huxley's *Brave*

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New World and George Orwell's *1984* sound like optimistic promises of salvation.

What can we do about it? It is foolish to dream of reversing history. We cannot pass laws forbidding science and technology. The computing machines are here, and they will not merely stay; they will grow bigger, faster, and more useful every year. They will grow because engineers want to build them, scientists want to use them, industrialists want to employ them, soldiers want to enlist them in new weapons systems, politicians want their help in the processes of government. In short, they will flourish because they enable us to accomplish tasks that could never before have been undertaken, no matter how many unskilled labourers we might have set to work. Computers will continue to amplify our intelligence for just the same reason that engines continue to amplify our muscles. The question we must ask is not whether we shall have computers or not have computers, but rather, since we are going to have them, how can we make the most humane and intelligent use of them?

The case for optimism

Fear of future technology seems to derive from two assumptions, both of which are highly dubious, if not demonstrably false. These assumptions are, first, that the amount of work to be done in the future is finite, and, second, that anything men can do, machines can do better.

Concerning the first, the argument of despair goes as follows. Automation means that long years of performing a job manually are sacrificed for a smaller amount of work required now to build a machine that will do the long-term job automatically. Doing future work now may give a present boost to some sectors of the economy, but it is feared that this boost will quickly spend itself and future generations will be left with nothing to do. This fear of future unemployment arising from the present construction of machines is far older than the Age of Computers. The Emperor Vespasian is said to have rejected a proposal for a hoisting machine because he had to keep his poor employed. But the argument was bad in Vespasian's day, and it has not improved with age.

If the total amount of future work to be done were limited, there might be some plausibility to this argument; future work, being limited, should be left for future generations to do. But there is little reason to believe that this is true. The amount of work involved merely in achieving full automation of industry is enormous, and no one who can contribute to it will need to go unemployed for centuries to come. Moreover, this enterprise will almost certainly be supplemented by the further development of new products and new technologies.

Automation does not mean future unemployment. What it *does*

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mean, however, is a redistribution of our working force into new occupations, with all the attendant social stress that such shifts always generate. The demands that this shift will place on our educational system are, of course, staggering – but not impossible to meet if we foresee them and begin to plan for them immediately.

The second basis for anxiety – that machines can do anything better than men – is equally unrealistic. It rests on the assumption that there is no real difference between human intelligence and mechanical intelligence, so that as the level of mechanical intelligence increases all but the most highly intelligent elite among human beings will find themselves redundant.

To calm such fears, we should remember first that computers are expensive. Given the economic realities that are likely to be with us for some time to come, a mechanical slave cannot be considered 'better' than a human employee unless it can do the job equally well at a lower total cost. This condition will often be a difficult one to satisfy. Many labour saving devices already exist that we do not use because they are not economically feasible. Even if you bite the mechanistic bullet and grant that men are nothing but machines, still you must admit that they are very clever computing machines indeed, and that we know a great deal about how to manufacture and maintain them. They will remain economically competitive with their glass-and-metal rivals for a long time to come, if not indefinitely.

At present the machines are best at those highly routine operations and decisions that must be performed repeatedly according to explicit rules and criteria – usually the kind of jobs that are brutalizing for men to do anyway. But not all our work has this routine, repetitive character, and there is some hope that machines may be able in the future to perform more subtle kinds of intellectual work. Even if this should prove to be the case, all the evidence suggests that it will not be economically realistic for them to replace humans at it on a large scale. For example, who would be willing to spend millions creating a mechanical executive when they can hire a human executive for a few thousand a year? This situation is not limited to executive functions, of course, but applies to most of the interesting kinds of work that human beings can do. The fact that it might conceivably be possible to replace men by machines does not say anything about where it will prove economical to do so.

Moreover, let me repeat that as yet I see little reason to believe that machines *can* do everything that men can do. I have already tried to say how different actual computing machines and actual brains really are. What this difference means is that there are some things the machines do better than we, and other things that we do better than they. I have even argued that cybernetics is less concerned to show that brains are machines than to show that both brains and

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machines must follow some very general principles applicable to all information processing systems, whatever their construction or mode of operation may be. In the future we will become increasingly better able – on the basis of our increasing understanding of what men can and cannot do – to use machines to supplement our own competencies. Surely, this prospect is nothing to inspire dread or despair. In my private catalogue of absurdities, I put the man who fears the mechanical aids of the future along with the teacher who fears the printing press because its books may put him out of business. If it is possible to spare ourselves the onerous mechanical chores, we will be just that much freer to do those things that only human beings can do, or want to do. I expect that the division of labour between men and machines, described in the most general terms, will ultimately correspond to a division between finding problems and solving them, but exactly what I mean by that distinction is not yet clear, even to me.

I am, as you can see, an optimist about the future course of the industrial revolution. I do not grant that the introduction of computing machines has changed the larger historical trend of technological progress, or that we are any less able to cope with the consequences of this new advance than we have been to cope with the inventions of the past. But it is obviously the case that all our imagination and good will will be needed to ensure that these new machines serve the public interest; and that we shall have to modify our social, economic, and educational institutions to harmonize with a future that we all know is coming.

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CURRENT READING

Trust or Conflict

"Prisoner's Dilemma" is the name of a model situation constructed by game theorists in which it is supposed that each of two prisoners charged with participating in the same crime, who cannot know what the other will do, face a choice of two strategies: to confess or not. Resulting from these strategies are four possible "payoffs" for each prisoner: if A confesses and B does not, A will go free and be rewarded (which may be assigned a value of + 2) and B will get long imprisonment (− 2); if B confesses and A does not, A will get long imprisonment (− 2) while B will go free and be rewarded (+ 2). If both confess, each will get short imprisonment (− 1); if neither confesses, each will be acquitted (+ 1).

One of the fascinations of the dilemma is its possible depiction of aspects of the human condition. Its moral is: (a) if you trust another person, it pays that person to take advantage of you, in which case, of course, it is unreasonable to suppose that he won't; (b) on the other hand, since mutual trust will lead to mutual gain, it may be unreasonable not to risk trusting him. The dilemma illustrates in its logically bluntest form the problem of deciding what behavior is "rational" and what isn't. In the Prisoner's Dilemma, the "rational" course appears to be to confess, since this will lead to a payoff of no worse than − 1, no matter what the other person does. But it nevertheless remains true that, if both people choose not to confess, they will achieve the higher payoff of + 1. The paradox, as explained by Anatol Rapoport and Albert Chammah in *Prisoner's Dilemma* (University of Michigan Press, Ann Arbor) is, then, that "the rational choice of strategy by both players leads to an outcome which is worse for both than if they had chosen their strategies 'irrationally'." In political terms, the question is: when the probability that another person (or nation) will cooperate is either unknown or just even, is it rational or not to trust?

The interest of the Prisoner's Dilemma for psychologists is that it presents a situation of inner conflict: each player in the game is torn between a tendency, on the one hand, to cooperate and promote the common interest, and a tendency, on the other hand, to compete and further his own interest. It is this aspect of the dilemma which Rapoport and Chammah concern themselves with studying. They describe how several hundred University of Michigan students behaved in 300 or more successive Prisoner's Dilemma situations, where the students knew the outcome of their previous choices. With the help of numerous mathematical models and many chapters of graphs and equations, the authors come up with the following conclusions:

- Players tend to imitate each other's behavior, one player be-

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coming more cooperative if the other is cooperative, more self-interested if the other is that.

• It is the quality of the interaction rather than any inherent tendency toward trust or mistrust that influences the outcome. In over 50 percent of the cases, the interaction begins cooperatively; it is then succeeded by an increase of suspicion and non-cooperation, and then, as the consequences become evident, a recovery sets in. "Thus learning goes both ways in Prisoner's Dilemma," the authors say. "First the subjects learn not to trust each other; then they learn to trust each other."

• Men are more trusting than women, especially when playing against each other. Seventy percent of male pairs end the experiment "locked in" to a fixed pattern of choice, and these, by a ratio of 4 to 1, are cooperating. Only 50 percent of female pairs end the session "locked in," and these, by a ratio of 2 to 1, are in conflict.

• Men are less trusting when playing against women than against each other. Women are more trusting when playing against men than against each other.

• Women are more persistent than men in what the authors call "martyr runs." These may be described as successive decisions to keep on cooperating, even when it hurts.

Suicide and the Welfare State

The myth does not down, that the establishment of the welfare state results in an increased suicide rate. In 1960, former President Eisenhower referred in a speech to a "friendly European nation" (Sweden) which as a consequence of "almost complete paternalism" had experienced a sharp rise in suicides, "more than twice our drunkenness," and "a lack of moderation discernable on all sides."

The argument is made that the welfare state impairs individual incentive, fosters boredom, fails to develop the necessary toughness in people so that even minor frustrations lead to suicide, etc., etc. Since so many countries are moving toward the creation of a welfare state, the question is an important one. In the Journal *Mental Hygiene* (July 1965), Professor Maurice Farber, comparing suicide rates in Norway and Denmark – both are welfare states, and their statistics are among the most accurate in the world – comes up with some answers. He finds:

"1. Norway is a welfare state; yet it has a *low* suicide rate. The Norwegian rate is 7 per 100,000.

2. Denmark has a high suicide rate but has had it for over one hundred years (20 to 30 per 100,000.), long before it became a welfare state. The Danish rate did *not* rise with the advent of the welfare state. If anything, it showed a moderate decline.

3. In Denmark there was a drop in the suicide rate for old people following the establishment of extensive social security practices. For males age 65 and over, the rate per 100,000 fell from 150 to 95. The

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higher figure was in the period 1885 to 1890. The lower figure refers to the period 1905 to 1910. While these data do not directly test the hypothesis, they do suggest that the welfare state appears to have reduced suicide in that segment of the population that benefited most from welfare provisions.

4. The suicide rate in the United States declined after the introduction of the social legislation of the New Deal. If we compare the pre-New Deal period (1925-1930) with the post-New Deal period (1945-1950), avoiding the abnormal periods of Depression and World War II, we find an average rate of 11 in the 1945-50 period.

5. The Canadian province of Saskatchewan (which has the most advanced welfare state provisions in Canada) has a suicide rate somewhat lower than that of the neighboring provinces. The rate for males in Saskatchewan is 14.4, for Manitoba 18.8, and for Alberta 15.6."

Leaving aside statistical correlations, Professor Farber makes some psychological observations, based on his own researches. "In my own intensive interviews with suicide attempters in Norway and Denmark, I never encountered a case in which boredom or lack of incentive played a significant role. Nor have other investigators studying the motives of suicides in welfare states . . . If anything, Norwegians (according to questionnaire material) are more bored with life than Danes, yet their suicide rate is about ⅓ that of the Danes."

If anything, the evidence would seem to be that when countries adopt social welfare programs, there is a decrease in the suicide rate — in part because of a relief of frustrations, in part because some hopeful attitude toward the future is induced — at least momentarily.

Whatever the validity of that argument, it does seem clear that the simplistic notion that the creation of a welfare state fosters or abets a higher suicide rate is false.

Plan Ahead

In December 1920, "Goelro," the State Commission for the Electrification of Russia, ("Communism," said Lenin, "is the Soviet power plus the electrification of the whole country"), set forth the first, single economic plan for the country. It is "a genuinely scientific plan," wrote Lenin. "We have the precise calculations of the experts . . . for every branch of industry. We have — one small example — a calculation of the production of footwear at the rate of two pairs per person (300,000,000 pairs) . . . We have a material and financial (in gold rubles) balance sheet of electrification (about 370,000,000 working days, so many barrels of cement, so many bricks, so many poods of iron, copper, etc., the power of the turbinogenerators, etc.)."

The "precise calculations" were, of course, wild guesses based on a primitive kind of economic arithmetic. One gets a measure of the naive and simplistic view of planning at that time by now reading L. V. Kantorovich's *The Best Use of Economic Resources* (Harvard University Press), which was published in Russia in 1959 and translated into English last year.

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Kantorovich is a mathematical economist, one of the best in the Soviet Union, who in the early 1940s worked out a technique of linear programming quite independently of the work being developed at the same time in the West.

In the late Stalinist period, mathematical economics was frowned upon in the Soviet Union; and even in the present volume Kantorovich is forced to justify his techniques by writing: "Mathematical symbolism and methods occupy an important place in the economic researches of Marx and in the economic and statistical works of V. I. Lenin. . . . Unjustified is the prejudice against mathematical methods because of their partial use by bourgeois economic schools. Clearly the precedents of the incorrect use of mathematics for purposes different from ours cannot prevent Soviet scientists from using mathematical methods in economic problems in a way which is correct and an advantage in the building of communism."

What is clear, however, is that when one considers the actual problems which Kantorovich seeks to solve by linear programming methods – e.g. a transportation problem in which one has to figure out the optimal routes for the flow of goods at least cost along a railway network which consists of 14 points and 19 sections – they are no different from managerial problems in every advanced economy, no matter what the political structure.

There is one crucial difference, however, in the approach to these problems. Kantorovich, as a complete technocrat, believes that one can, with mathematical models and high-speed computers, write a single economic plan for the country that would show, through input-output matrices, the optimal distribution of economic resources with valuations of production corresponding to full national economic costs. He derides those economists "from some People's Democracies," who would "improve" the planning system "by allowing elements of spontaneity and competition between factories."

In effect, Soviet planners are now being asked to choose between Kantorovich and Liberman, one arguing the theoretical possibility of a detailed plan which could measure the millions of inputs in the productive process, the other asserting that realistic decisions can only be made when producers adjust their output to consumer demands.

Paradoxically, both may be right. Kantorovich might, theoretically, be able to work out a complete plan, but the administrative difficulties in implementing it would probably be insuperable; and in practice, one would have to resort to the market. But the function of the theory, then, would be to set forth some "shadow prices" and "shadow *tableaux economiques*" to see whether the economy is functioning optimally. In that sense his mathematical economics is vindicated.

One sign of the development of non-ideological economic theory in recent years is the index: Wassily Leontieff of Harvard receives one more citation than Karl Marx.

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Social Mobility: More or Less?

Until a decade ago, most sociologists claimed that the volume or rate of social mobility in the United States was declining, and that America was developing a more rigid class structure. Obviously, technological and occupational changes in the U.S. – the demand for more professional and technical skills, the expansion of white-collar employments – was upgrading the class structure as a whole. But the crucial question was this: given the general expansion of higher status jobs, were the chances of those whose fathers held low-status jobs greater or less than before to move into new high-status jobs?

The general sociological pessimism was first challenged in 1953 by Natalie Rogoff who, using a new statistical technique that held the slope of the occupational structure "constant," found a net higher degree of social mobility in 1940 than in 1910. While many sociologists accepted Miss Rogoff's findings, the chief difficulty was that it was based on the records of only one city, Indianapolis.

In view of the current concern about the "inheritance of poverty," and the perennial interest in the question of American social mobility, some wider assessment has long been in order. In an article, "The Trend of Occupational Mobility in the United States," (*American Sociological Review*, August 1965), Professor Otis Dudley Duncan, now at the University of Michigan, has made that attempt. "The present report," he writes, "can claim to make a contribution" by its use of "the most nearly definitive estimates of occupational mobility yet made for this country."

Duncan has used some unpublished tables from a study, "Occupational Changes in a Generation," which was conducted at the University of Chicago on the basis of a Census sample of 1962. Four groups of "birth cohorts" – men aged 25-34, 35-44, 45-54 and 55-64 – were classified on the basis of the occupation of the individual's father when he was 16 years old, and the respondent's occupation at his own first job. Duncan calculates what the occupational destination of the older group would have been 10, 20, and 30 years ago if it had experienced the same probabilities of mobility as the younger group at a comparable age. By comparing the actual jobs with the "expected" distributions, he obtained the "net" changes in the pattern of mobility.

The results confirmed what is now popularly held to be the case among sociologists. The 1962 matrices showed more "upward" mobility – particularly into salaried, professional and technical positions – and less "downward" mobility (into lower blue-collar and farm occupations) than did the 1952, 1942, or 1932 matrices. "As of 1962," Duncan concludes, "there was little immediate cause for anxiety about whether the American occupational structure was providing more restricted opportunities. But it is well to remember that the data refer to a historical experience in which the transition to complete industrialization was rapidly nearing its end. If the move-

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ment off the farms has been a major factor inducing upward mobility from nonfarm origins in the past, it is not clear what its counterpart may be in an era when few persons originate on farms."

Systems Analysis

The technique of "systems analysis" (in an earlier incarnation called "operations research") is threatening to become so modish, that a reaction against it may well set in even before it has had a chance to be tried on an extensive scale. The Rand Corporation has used systems analysis in military decisions (primarily to test alternative costs and effectiveness of weapons systems). The aerospace companies have used systems analysis to design missiles. The Pentagon has adopted it as a means of choosing among competing strategies. More recently, a half-dozen aerospace companies, under contract with the State of California, have sought to apply systems analysis to crime and delinquency programs, waste disposal, pollution, water conservation, and the like. John Rubel, a vice-president of Litton Industries, has proposed that new cities be built from scratch, employing systems analysis. Senator Gaylord Nelson and Congressman Corman have introduced bills into the Congress proposing that large-scale grants be given to universities and research corporations to design new solutions to environmental problems by using systems analysis techniques.

The idea of systems analysis is fairly simple. It is to look at a problem in its context and to compare alternatives, rather than to solve problems singly. Thus, in dealing, say, with the transportation problems of the Northeast corridor (from Boston to Washington) one would not set out to save a floundering railroad, or seek to create a cross-borough expressway because traffic is piling up at either end of a tunnel, but to approach the problem by asking: How many persons and how much goods have to be moved, what local, intermediate, and long-range distances, within what time intervals, and, consequently, what are the possible "mixes" of private cars, public buses, railroads and airplanes, at what alternative cost combinations, in order to get "optimal" solutions.

In principle, there is nothing new about an approach which concentrates on inter-relationships rather than on entities. In practice, what is new is that striking advances in economic and statistical techniques (linear programming, "Monte Carlo" gaming), when hitched to the computer, allow us to specify the optimal or maximal paths of alternative choices at varying costs.

Curiously, little has been written, systematically, about the actual techniques of systems analysis (though there are many technical journals about "operations research"). Hence, the publication of *Analysis of Military Decisions*, edited by E. S. Quade (Rand McNally), is a useful starting point for anyone who wants to see how the techniques have been actually used.

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The book is a set of lectures given by the Rand Corporation, first in 1955 and then in 1959, as an intensive five-day course for high-ranking military officers and civilians who were responsible for military decisions, and now revised for publication in 1965. Its value lies in its concreteness. Thus, Charles J. Hitch (then of Rand, but subsequently a key figure in the Pentagon) illustrates in detail the range of problems involved when, in considering the kind of bomber system which may be necessary in the future, one has to take into account speed, range, altitude, kind of formation, base system, etc. – each variable having say only two alternative values, so that any calculation has to calculate and compare a total of 1000 variables. Or, to take a different example: one may ask what is the chief desiderata of a missile system, and the initial answer might be accuracy. But it turns out that to achieve accuracy one may have to make a missile too complex and thus add to the number of components, reduce the speed, and increase its vulnerability. The "optimal" choice will have to take all these into account.

The book is divided into several parts. A number of chapters illustrate specific techniques (costing methods, dynamic programming, models, etc.) There are two superb case studies: one on the selection and use of strategic air bases that was made for the Air Force in the 1950's; the other on problems in setting up a Lunar Base that deals, in effect, with the late 1960's. And a number of chapters, particularly those by Albert Wohlstetter and E. S. Quade, introduce some useful caveats on the limitations of the techniques. Over the years, Rand has moved from simple optimizing problems to questions of how to make choices in the face of uncertainty; and while, in the process, new tools have been developed, there is also a new humility in the admission that, at bottom, policy decisions, with all these aids, still rest on intuitions and human judgments.

Two other questions, which the book does not take up, are worth considering as well. These lectures describe rational techniques, mostly of a quantitative and mathematical nature. But the problem of getting rational conclusions adopted by those in power still defies rationality. In the case of the findings on strategic air bases, Albert Wohlstetter (according to a forthcoming study of the Rand Corporation by Bruce L. R. Smith) had to conduct more than 150 briefings of Air Force officers, over a period of more than a year, to get the conclusions accepted. The second, more general consideration – especially when one seeks to apply systems analysis to domestic problems – is that military decisions have a single value premise, "effectiveness," even though there may be vested interests which prefer one system rather than another, for bureaucratic reasons. But domestic problems, e.g. city planning, involve a whole range of different values, and agreement on these are not obtained so readily as on military issues. The point is that in applying systems analysis to domestic social problems the enthusiasts risk a technocratic *hubris;* and this, more than any element in the techniques themselves, may be the

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cause of some lamentable failures, and disillusionments, with what is – and, it should be emphasized, remains – a magnificent contribution to modern thought.

What Shall We Do With USES?

What to do with a moribund bureaucracy? An old question to which there are no new answers. A case in point is the United States Employment Service. A major New Deal institution, created by the Wagner-Peyser Act in 1933, by the end of the 1950's its life force was fast ebbing.

It was a victim of various misfortunes. Owing to the New Deal pattern of administration, it never in fact became the *United States* Employment Service. Rather, each state set up its own service. The Federal government simply provided the funds, from a tax levied on employer's payrolls, and a Bureau in the Department of Labor served as the center for sorting out information about an ever more complex system of rules and regulations.

Born of the depression, and assigned the task of administering the unemployment compensation system as well, the system quickly acquired the dread stigma of socialism and poverty: to this day the employment service is known to probably a majority of its clients as the "Unemployment Office." Soon, a savage lobby was established by the private employment agencies to see that the USES did not work too well. There was little counter pressure: the labor movement spoke well of it, but the building trades are their own placement service, and the big companies do their own hiring. Almost friendless in the 1950's the system declined in the specific operational sense of making fewer placements, doing less business.

With John F. Kennedy came the idea of "manpower policy." In a quiet, almost unnoticed way, a major departure in national social policy occurred. In his first Manpower Report, in March 1963, Kennedy put the proposition clearly:

> "With the enactment of the Manpower Development and Training Act of 1962, Congress went further to declare that an effective full employment policy also requires a major national effort to improve the functioning of the labor market and the quality and adaptability of the labor force. The act also includes the request for an annual Presidential Report on "manpower requirements, resources utilization, and training." Together, these provisions mark the emergence of the manpower program as a specific instrument of national policy."

One new task after another was piled on the USES. The problem was to adapt the old institution to the new ways. Or else to replace it. A mixed and never very conscious decision was made. Competing organizations were established, principally the Office of Economic Opportunity which for some time thought – possibly still thinks –

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in terms of setting up a parallel system for recruiting and placing its poverty clientele. This did not succeed as such, but it stirred up the USES and perhaps more important enlisted countervailing loyalties from other institutions threatened by OEO. In September, 1965, Secretary of Labor Wirtz appointed a task force to propose improvements in the USES itself.

The result, *A Report To The Secretary of Labor From The Employment Service Task Force, December 23, 1965* (U.S. Government Printing Office.), is a colorless and intelligent document; a good example of medium quality civil service thinking with an academic imprimatur. The pattern of joining large assertions to limited proposals is followed carefully. The USES "must be established as a comprehensive manpower services agency whose activities provide vital support for a variety of government programs". This is to be done by separating the placement from the unemployment insurance functions, by raising the pay of interviewers (in 1963, a third made less than $5000 a year), by linking up the 2000 USES offices on regional bases to help fill vacancies, by having the Director of the USES file an annual report, and such like.

Nothing is proposed that is likely to be opposed. Thus, it is now quite feasible to establish a system of aggregate job vacancy statistics that would correspond to, although not of course match, the system of unemployment statistics which began several decades ago. But the trade unions oppose this move out of fear conservatives will use the new data to show that the number of unemployed equals the number of empty jobs, and that there is accordingly no real unemployment problem – the fact that these two sets of figures might not "match" so far as concerns specific people in specific jobs, could easily be overlooked. This is possible, of course. But not too likely. And the fact remains that job vacancy statistics would be an important new planning tool: the Task Force specifically avoids suggesting this, although the members surely know better. This is all the more to be regretted at a time when research is showing that problems of inadequate training and education are becoming more of an obstacle than discrimination to employment for Negroes. (See John Feild and Melvin Mister, "Civil Rights Employment Opportunity and Economic Growth", *University of Detroit Law Journal,* Fall 1965).

The Economic Impact of Disarmament

It may seem strange, with defense expenditures stepped up because of the war in Viet-nam, to consider the economic impact of disarmament on the American economy. Yet it is instructive to do so for two reasons. First, fundamental shifts in the composition of defense spending – i.e. phaseout of particular weapons systems, or curtailment of specific bases – will continue regardless of the direction of the over-all military budget, and these might be disruptive of the economy. Second, the question of how much the current health of

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the economy is still dependent upon defense spending, and what the magnitudes of change would be if disarmament did occur. These questions find some answers in the *Report of the Committee on the Economic Impact of Defense and Disarmament,* which was headed by Gardner Ackley, the chairman of the Council of Economic Advisors, and released in July 1965. (It is available at U.S. Government Printing Office.)

Federal spending in the combined defense, space, and atomic energy programs today account for about 9-10 percent of G.N.P., and for 85-90 percent of total Federal purchases of goods and services in the past decade. About 6.6 million persons (or about 10 percent of the total employment of the U.S. in 1963) were engaged in defense-related work. About half of these were employed directly by the Federal Government (in the armed forces or as civilians in Federal defense agencies); the remainder worked for private contractors and subcontractors, or for firms providing materials and services to defense contractors.

As of 1963, wages and salaries paid by the major defense-related industries and by Federal defense agencies were of relatively greatest importance in Alaska and Hawaii, where 25 and 20 percent, respectively, of personal income was from these sources. Next in order were Virginia with 15 percent; California, Maryland, Utah, and Washington, each with 11-13 percent; and Alabama, Connecticut, the District of Columbia, Georgia and New Mexico, each with 9-10 percent. In the remaining 39 states, defense spending accounted for less than 9 percent of personal income. In the states with the highest percentages (Alaska, Hawaii and Virginia) most of the defense employment is in Federal agencies and armed forces, rather than in private manufacturing industries that have defense contracts.

What of changes in composition of defense spending, and its influence on the maintenance of demand? The Report makes the simple point that cuts in defense expenditures are easily manageable (although there would be short-run problems for specific localities) if there are readily available offsets in spending for other purposes, or if aggregate demand would remain quite strong.

There is a lesson from history. Between June 1945 and June 1946, over 9 million men, or more than 3 times the present total of military personnel, were released from the Armed Forces; and in that one year defense spending was reduced by 75 percent — a reduction equivalent to more than 25 percent of the G.N.P. in 1945. Between 1946 and 1947, defense purchases were reduced by a further 39 percent. Yet during that time, business investment doubled, hours of work reduced, many workers withdrew from the labor force (e.g. women and students) and large reservoirs of unfilled needs created strong markets and new demands. While the report points out that defense reductions after the Korean war resulted in a decline in G.N.P. smaller than the decline in defense spending, it is prudently silent about the failure of the Eisenhower administration to maintain sufficient spending to absorb

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all the cut-backs. In 1954, unemployment rose to 5.6 percent, although it declined, following deficit spending, to 4.4 percent in 1955.

Equally, there is a relevant experience in a previous shift in defense spending. From 1953 to 1957, spending on tanks, conventional ordnance, and small arms dropped from $11 billion to about $2 billion, a cut of about 85-90 percent in 4 years. The result was a massive loss of defense business for the Middle West, where such production had been concentrated (e.g. Detroit), but since the resources set free were not highly specialized, they were re-absorbed by growing total demand in the economy. The Report indicates that in the newer aerospace industries, many firms have never produced for nonmilitary markets. But it points out that extensive subcontracting (73 percent of the dollar value in the electronic industry) tends to spread the work geographically, and that a large proportion of defense procurement is of items closely similar to civilian consumption.

The crucial problem will be maintenance of aggregate demand. Reflecting the new theory of "fiscal drag," the Report points out that the progressive nature of the Federal income tax results in an increase in revenues at a somewhat faster rate than G.N.P., as the latter increases. Assuming, conservatively, a G.N.P. of $870 billion in fiscal year 1970, Federal revenues would be nearly a $50 billion higher than estimated for fiscal year 1965. The Report reckons that "built-in" increases in spending (e.g. social security) will absorb about $15 billion and that consumer demand and investment will increase an additional $10-15 billion. Thus, about $25-30 billion would have to be spent by government, or taxes would have to be reduced by that amount to maintain noninflationary employment levels (e.g. about 4 percent unemployment) by 1970.

If one assumes, at the same time, a hypothetical decline of 25 percent in defense expenditures (a reduction of $13 billion), the government would have to spend, or reduce taxes by $38-43 billion in 1970, to maintain aggregate demand.

The Report makes no estimates of the cost of "unmet" community needs. Yet considering the "deficits" in housing and urban transport, the needs of community health and expanded education, the costs of reducing air and water pollution, etc., there would be little problem in spending an additional $40 billion on such communal investment. What the actual proportion for personal consumption (by reduced taxes), and the proportion for investment would be, is of course a major political issue for the future.

What is Public? What is Private?

The conventional model of the economy concentrates on the private profit-seeking sector. A more realistic model would recognize that there are three principal types of enterprise: profit-seeking, nonprofit, and government. The latter two, grouped together, constitute the "not-for-profit" sector, and in *The Pluralistic Economy* (Co-

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lumbia University Press), Eli Ginzberg and his associates provide, for the first time, the economic anatomy of that sector.

The most striking fact is that about one-fourth of G.N.P., and between one-third and two-fifths of all civilian employment, is accountered for by the not-for-profit sector. (In 1929, the percentages were 12.5 percent and 9.7 percent respectively.) In the 1950-1960 decade, nine out of every ten new jobs added to the economy was generated by the growth of the not-for-profit sector — i.e. by the vastly enlarged role of the Federal government, the new activities of state and local governments in community services, and the growth of nonprofit institutions in such fields as health, education and welfare.

Striking as these changes may be, the more difficult fact in the future will be to distinguish kinds of enterprises simply by the designation "profit" or "not-for-profit." The Battelle Institute (which refined the Xerox process) is a not-for-profit research foundation; yet it is in no way different from its competitor, Arthur D. Little, a profit-seeking company. Mutual insurance companies and mutal savings banks are "not-for-profit," yet their rates, salaries, and practices are virtually identical with capital stock insurance companies and savings banks. Institutions such as the New York Port Authority or the Triborough Authority are public corporations, but make a huge profit. The Aerospace corporations are private, yet the government is almost their sole customer (accounting for 94 percent of their output). Medical and health services are an outstanding example of the commingling of private, nonprofit, and governmental action. Most physicians are self-employed and work for profit in the "private sector." Most hospitals are nonprofit, yet independent of government. The Federal government, increasingly, underwrites a large share of hospital construction, and now, with Medicare, hospital costs for the aged.

Health is one of the largest "growth industries" in the country. Expenditures on medical care increased from $3.9 billion in 1940 to $26.5 billion in 1960, and now account for almost 5.5 percent of G.N.P. In 1940, hospital insurance, the most usual form of health insurance, was held by only 9 percent of the population; in 1960, 74 percent were insured. During this period, the proportion covered for the expense of physicians' services in hospitals increased from 2 to 49 percent.

The increasing demand for medical care illustrates, once again, the misleading nature of common social perceptions. During the war, for example, individuals eating in restaurants complained of the shortages of waiters, believing that most of them had gone to war. The fact was that the number of waiters in restaurants had risen, but not as fast as the number of people who could now afford to eat in restaurants and were doing so. The situation is the same with regard to the one class about whom it is almost universally believed that their number has declined: professional nurses. Actually professional nurses grew from the unbelievably small number of 640 in 1900 to over a half million in 1960; or from a ratio of 1 nurse per 100 physicians

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in 1900, to 208 nurses per 100 physicians in 1960. More directly, in the twelve years between 1950 and 1962, the number of active professional nurses increased from 375,000 to 550,000 (which raised the ratio of nurses per 100,000 population from 249 to 298); the number of practical nurses increased from 137,000 to about 225,000; and the number of aides, orderlies, and attendants from 221,000 to 490,000 in that twelve year period. But the demand grew even more rapidly; hence the "shortage."

Getting Off the Reservations

"One of the sure signs of maturity," Martin Luther King, Jr., has written, " is the ability to rise to the point of self-criticism." In these terms, the Negro community still has some growing to do. A measure of how much progress has been made will be the reaction to a tough-minded, concise analysis of the tasks ahead, written by a Chicago steel worker and political activist. It is Abie Miller's *The Negro and the Great Society* (Vantage Press)

Miller's thesis is outspoken to the point of challenge: "We well know that the white man got us into this mess; but the white man, alone, cannot now get us out of it." He likens the Negro situation to that of a nation trying to win a two-front war by fighting on only one front: "We are currently engaged in a one-sided fight for civil rights, while at the same time neglecting the racial self-improvement which is absolutely necessary for our progress and our attainment of equality in American civilization. While we have fought valiantly for civil rights equality, we have made precious little effort to become otherwise less unequal to those with whom we desire to be equal."

Surveying Negro history of the past century – "Up From Slavery and Down to Hell" – he sees the present moment as one demanding a commitment to an activism beyond protest. "What part will Negroes play in the development of President Johnson's 'Great Society'? Will we play an active role in building the America of the future . . . or will we – as has happened all too often in the past – allow ourselves simply to be swept along by socio-economic forces that we feel are beyond our control?"

"Racial self-improvement" is a phrase that rouses fury and rage in many Negroes, and exposes anyone using it to the most poisonous epithets. Miller seems to know this, and not to mind it, which is a degree of calm to be viewed with respect. He writes clearly about various theories of what is now to be done, ranging from Saul Alinsky to Roy Wilkins. He calls for a crusade within the Negro community to build businesses, strengthen families, limit children, improve education – segregated or not. "Those two nasty, ugly terms (to many of our educated and economically privileged Negroes), 'Negro self-improvement' and 'Negro self-help,' are now staring us straight in the face and demanding that we do something about them."

Miller states the price of putting this off:

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"The internal decomposition of the bottom half of Negro society has now reached alarming proportions. And as the proportion of Negroes increases in the cities, we face the prospect of increasing social and economic deterioration in the large Metropolitan areas. If the black ghettos continue to expand within the big cities, and there is no decrease in the social disorganization and pathology within these ghettos, then in the future we shall have metropolitan chaos. The American Indians have their reservations in the West and Southwest. We are now moving in the direction that in the future, the big city slums will be the reservations for the Negroes."

Keynes Redevivus

Mr. Lekachman has had the brilliant idea of gathering together the significant reviews of John Maynard Keynes' *General Theory* which appeared upon publication of the book in 1936, some of the memoirs and evaluations published on Keynes after his death in 1946, and asking each of the writers to contribute a fresh essay assessing their original, as against their present judgments. (*Keynes' General Theory: Reports of Three Decades.* St. Martin's Press).

None of the writers in the re-evaluation downgraded Keynes. Gottfried Haberler and Jacob Viner, both "anti-Keynesians", shied away from the claim that Keynes had made a "revolution" in economic thought. Haberler, in somewhat grudging fashion, and Viner, in his customary cool and elegant style, agree that Keynes had made a significant contribution to short-run analysis, but demur at the idea that the basic precepts of economic thinking had been significantly changed. Paul Sweezey, the Marxist, pays tribute to Keynes for showing that capitalism is not a *self*-adjusting system, but goes on to argue that it cannot be adjusted to maintain growth and full employment.

The other six contributors, all Keynesians, explore what they believe is a "revolution" in contemporary economic thought. Austin Robinson, whose magnificent 70 page memoir of Keynes opens the book, points out that Keynes had asked a crucial and neglected question: what factors determined the level of output in the economy, both in the short as well as the long run. And the answer to it led to the new role of government fiscal policy in regulating business fluctuation.

A concluding essay by Paul Samuelson is a dazzling hop-skip-and-jump through various "tests" of Keynesian ideas, ending with a defense of the "orthodox" Keynesian hypothesis that a fall in unemployment is due to a drop in aggregate demand, against the "latest" theory of Nicholas Kaldor that unemployment is due to inadequate income distribution, i.e., labor's lower share of the national income. "If only the Kaldor syllogisms were empirically valid," remarks Samuelson, "how nice the world would be".

The extraordinary fact is that Keynes' *General Theory* is a heavy-handed, convoluted book, "so nearly incomprehensible" writes Pro-

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fessor Robinson, "as to require a body of expert theologians to expound it". Yet the book found a ready response. The answer is apparent: during a major depression, Keynes had one major thesis (that economic equilibrium does not produce full employment) and one understandable solution (government intervention to prime the pump). All this was put into a framework which we now call macroeconomics – that view of the market which raised the sights of the economists from the firm to the national economy and the government; and in the political temper of the times, the young economists got a heady whiff of the idea of becoming the "controllers" of the society; for them the *General Theory* (like *Das Kapital* for the intellectual proletarians) was a ready and practical bible indeed.

Economic Prediction

Economics, says Professor Adolph Lowe in *On Economic Knowledge* (Harper & Row), is the envy of the social sciences because it resembles so closely – at least on the surface – the predictable, mathematically describable, "systems" of natural science. The trouble is, however, that no matter how elaborate the model-making techniques, the reliability of economic prediction cannot, intrinsically, be any greater than of its fundamental premises about human behavior, and these, on close inspection, turn out to be notoriously unreliable.

This is not because sampling techniques for behavior are inadequate or because our conceptual picture of human reactions is necessarily wrong. It is because in the milieu of a semi-affluent society, where the major production decisions are concentrated in large enterprises only partially subject to market pressures, the "maximizing" choice for marketers is indeed apt to vary almost at random. Two large companies facing the uncertainties of the response of the environment may, with perfect rationality, decide on diametrically opposite courses of action, one raising and one lowering prices, one retrenching and one expanding, etc.

In the days when classical economics was propounded, this critical indeterminacy of the system did not exist because "systemic pressures" – want in the case of the poor, naked acquisitiveness in the case of the entrepreneur – and a milieu of small, mobile, competitive units *enforced* the kind of behavior that was then formalized into the equations of classical theory. The remedy for contemporary economics, says Lowe, is to *create* precisely such an environment again – not an atomistic or needy environment, of course, but one in which pressures exerted by the government will serve to coordinate incentives and to remove the ambiguity of expectations that now renders economic forecasting inoperative. The new economics is accordingly to be a Political Economics, whose task will be the appropiate manipulation of behavior (or the stimuli that adduce behavior), rather than the elaboration of the consequences of a behavioral pattern that may never occur.

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Forthcoming in The Public Interest:

JAMES TOBIN on planning for 'income maintenance'. PETER WILES on the Ph.D. octopus. . . . NORMAN ZINBERG on the facts and fallacies of narcotics addiction. . . . WILLIAM GLASER on doctors and medicare in four countries. . . . PAUL SEABURY on the intellectuals and the formation of public policy. . . . KENNETH ARROW on matching 'social costs' to 'social benefits'. . . . BERNARD BARBER on medical experimentation with human beings. . . . VIRGINIA HELD on the rationalizing of government through program budgeting. . . . CHARLES E. LINDBLOM on the market as a planning mechanism. . . . JAMES Q. WILSON on government regulatory agencies. . . . BERTRAND DE JOUVENEL on 'the art of conjecture'. . . . BARBARA BERMAN on the occupational profile of 1975 . . . and others.

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